



Supporting Supply Chains in a Pandemic

OpenLMIS COVID-19 Edition Update -
March 2021



Contents

This update is intended for anyone planning COVID vaccine rollouts including supply tracking. It provides:

1. Detailed guidance on how OpenLMIS can be used to support COVID vaccine rollouts - *with demo videos!*
2. Updated information on what is available now in OpenLMIS COVID-19 Edition for free or for a cost
3. Resources for more information and how to get started

How to use this guidance



Do you have an eLMIS to support your COVID vaccine rollout?

No → Use this guidance to consider rapid adoption of OpenLMIS COVID Edition

Yes → Consider using and adapting your existing eLMIS before you consider OpenLMIS COVID Edition

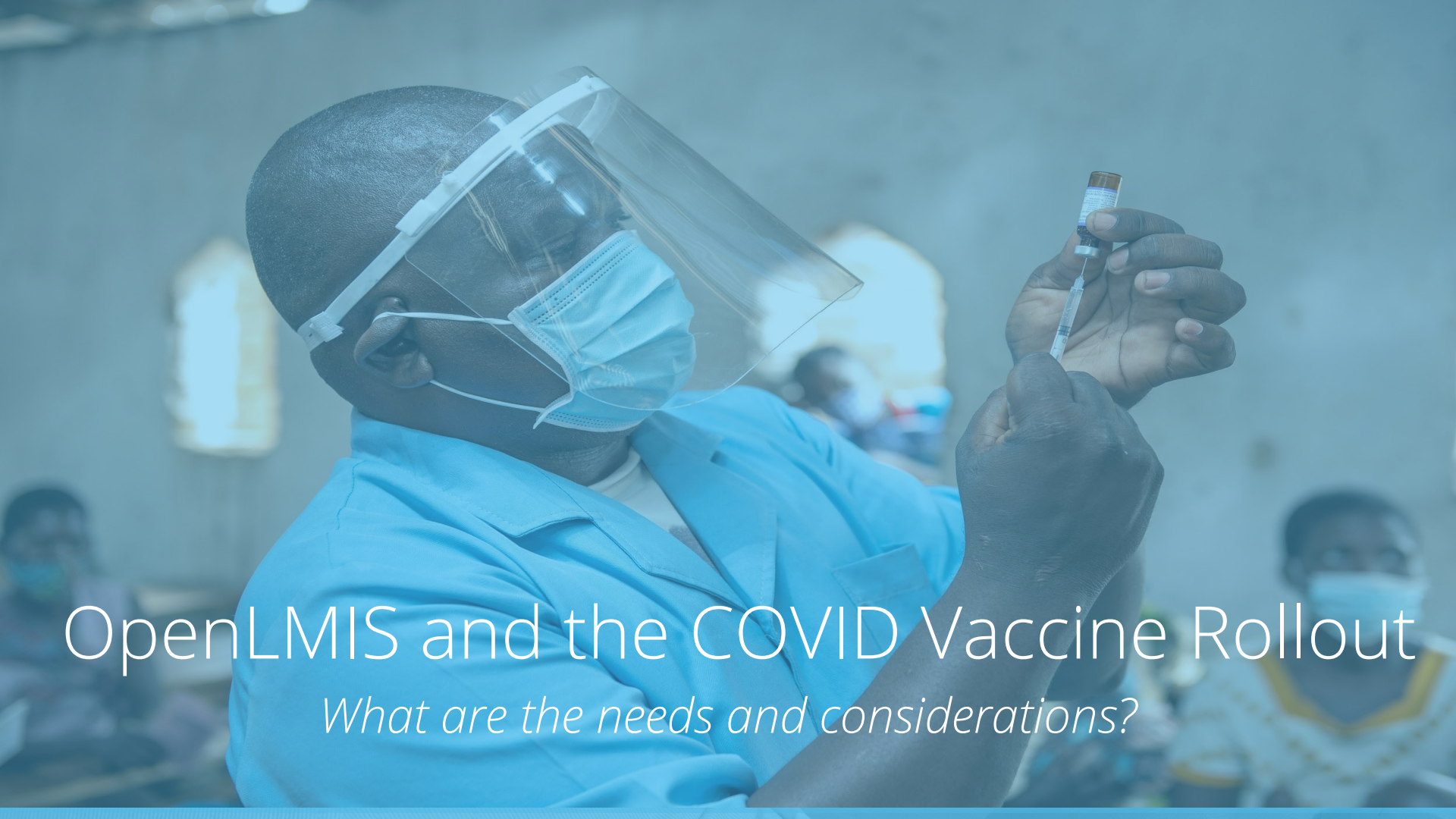
Not Sure → Use this to learn what OpenLMIS COVID Edition can provide



Do you have an OpenLMIS instance already?

No → Use this guidance to consider rapid adoption of OpenLMIS COVID Edition

Yes → Use this guidance for how to configure and use OpenLMIS for COVID vaccine tracking



OpenLMIS and the COVID Vaccine Rollout

What are the needs and considerations?

COVID Vaccine Rollouts Require Extra Urgency

Limited vaccine supply:

Visibility and transparency are critical for trust and informing distribution

Tight expiration dates:

Vials without VVMs, and two-dose regimens require more frequent stock reporting

Risk of falsification:

Lot/batch tracking & digital supply chains can reduce this risk

Programs start with emergency allocations:

Over time programs will likely shift to routine re-supply, which demands a flexible eLMIS

Start Simply and Grow Organically

OpenLMIS is flexible as COVID programs evolve:



Start Simply

- Emergency allocations
- Push vaccines out and track them
- Dashboards for top 2 indicators:
 - 1) Consumption (doses/vials used)
 - 2) Stock on Hand



Enable advanced features any time along your journey:

- Lot/batch and expiry tracking, CCE (cold chain equipment) tracking,
- Integrations with other OpenHIE and eHealth systems



Grow into Routine Resupply

- Demand driven
- Ordering & approval process
- More products & programs
- Richer indicators
- Auto-calculate resupply quantities

Who uses OpenLMIS? What are their needs?

The top users and needs for COVID vaccine delivery:

Vaccine Warehouse Manager



Immunization Health Worker



Data and Dashboards for Supervisors:

District Supervisor (a.k.a. District Immunization & Vaccine Officer/DIVO) & Program Supervisor

Other Users:

Intermediate Level Logistician, Cold Chain Technician, System Administrator



1. Detailed Guidance

How does OpenLMIS support COVID vaccine rollouts?

Two Workflows are Available

Either workflow supports vaccine delivery sites and warehouses:



Stock Management

Track inventory as needed daily, weekly, or ad-hoc.

Record consumption, remaining stock on hand, wastage, expiry, transfers in/out and adjustments.

Use this data to drive dashboards and allocation decisions.

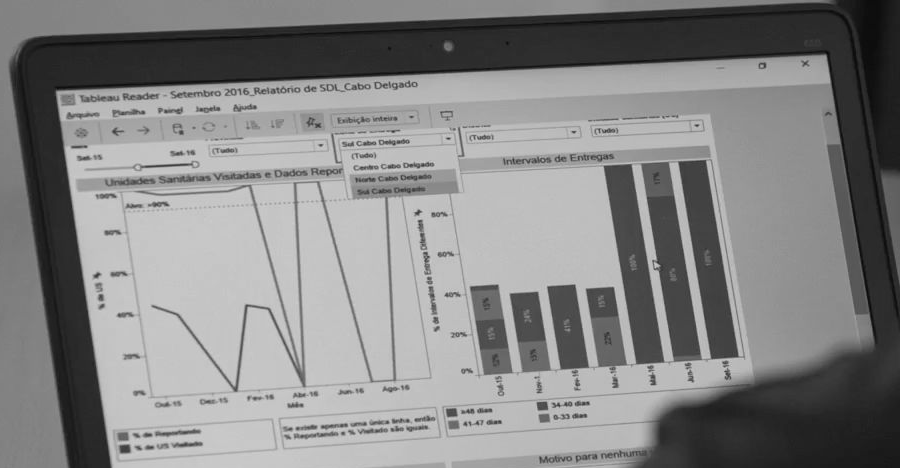


Report & Requisition (R&R)

On a pre-set schedule (weekly/monthly), each warehouse or vaccination site fills out an R&R and submits.

Can include approval hierarchies and trigger ordering workflows, shipments and proof of delivery.

Use R&Rs to drive dashboards and automate the resupply cycle.



Watch Demo Video 1

Stock Management for COVID Vaccines
[https://www.youtube.com/watch?v=vK2Bk](https://www.youtube.com/watch?v=vK2Bk5BS-yE)

[5BS-yE](https://www.youtube.com/watch?v=vK2Bk5BS-yE)

04:08

4G

OpenLMIS

+

https://dm.openlmis.org/it/home

☆

👤

☰

OpenLMIS

No System Notifications
Software last updated on
Logged in as: gpr

Home

CDI Management

Reports

Encounters

Stock Management

English

Logout

Welcome to
Logistics Management Information System

System Notifications

There are no system notifications.

- Import
- Issue
- Reverse
- Physical Inventory
- Adjustments
- Stock on Hand

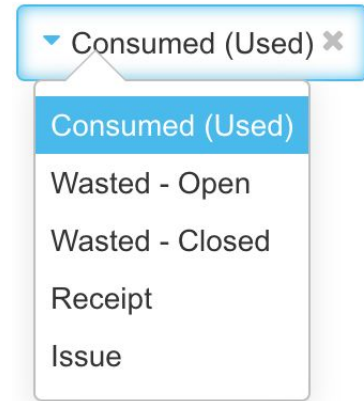


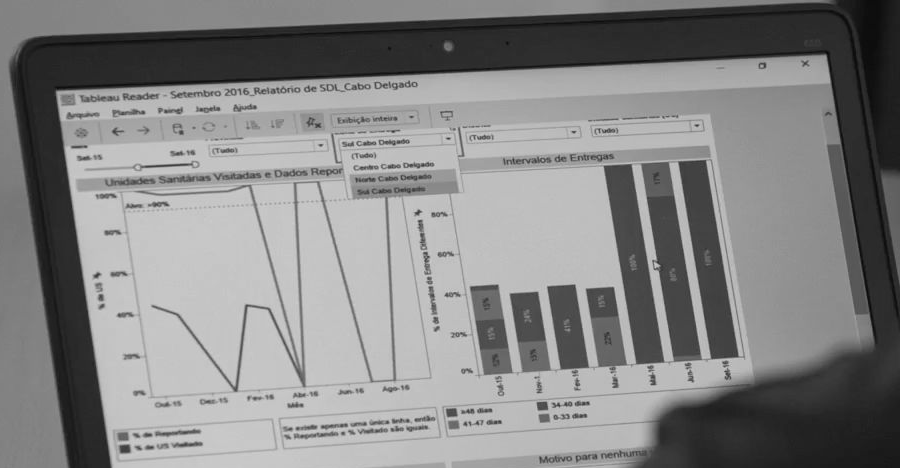
Key Points - Stock Management Demo Video

- ★ Stock Management provides an easy way to track **high-value data** with low effort
- ★ At a minimum, you can track stock counts for priority products on a flexible schedule
- ★ Adding **Reasons** can capture added data points like consumption & wastage
- ★ Powerful features for Lots, Expiry, VVMs, Kits

In the next demo video, we will see that R&Rs can also collect the same data...

Reasons are configurable so you can capture what's most important:





Watch Demo Video 2

Report & Requisition for COVID Vaccines

<https://www.youtube.com/watch?v=UugG3YTfQKw&t=3s>

Home > Requisitions > View Requisition

Report and Requisition for COVAX (Centre de Santé)

Print

Report Only

Facility: COVAX - Boma ville
 Operated by: Ministry of Health
 Region: In Boma Zone de Santé
 Reporting period: 01/02/2021 - 13/02/2021

Comments

+ Add Comment

No comments added

Full supply products

Non full supply products

All changes are saved

Skip	Product code	Product	Units/unit of issue	Beginning balance	Total received quantity	Total consumed quantity	Total losses and adjustments	Stock on hand	Total stockout days
Vaccines									
	48H_24V2_vaccine	24825 Cov-2 Vaccine	10 dose vial	300	0	300	(0)	0	0

Sync with Server

Report

Requisition

Key Points - R&R Demo Video

- ★ Report & Requisition provides another easy way to track **high-value data**
- ★ R&R forms can capture the same data as Stock Management, but match traditional paper forms
- ★ R&Rs are based on a periodic schedule and can be connected to **ordering**
- ★ The R&R form is flexible and configurable, with many choices for columns, optional or required fields, and auto-calculations

Next let's consider how to choose between Stock Management and R&R...

Choosing Between the Two Workflows

Stock Management

Advantages:

- ✓ Collects the few most important data points: consumption and remaining stock on hand
- ✓ Flexible to report data any time (daily, weekly, ad-hoc) without fixed schedules/periods

Limitations/Disadvantages:

- No ordering and approval steps (unless used with R&Rs)

Report & Requisition

Advantages:

- ✓ Supports ordering and approvals
- ✓ Tracks shipments and proof of delivery, including on-time/delayed
- ✓ More appropriate workflow if some facilities are reporting on paper

Limitations/Disadvantages:

- Requires fixed schedules/periods (cannot be daily)

Connecting the Two Workflows

Stock Management



Report & Requisition

You can use Stock Management and R&R together as you evolve from emergency into routine resupply.

A 'stock-based requisition' or 'automated requisition' means the requisition form is **automatically filled out** based on stock management data already recorded.

OpenLMIS lets you **choose the best** workflow for each context. You can use Stock Management at some locations while using R&R at others.

More Requisition Demo Videos

Stock Management and R&R Auto-Populating an Order

https://www.youtube.com/watch?v=JutEn_et6As

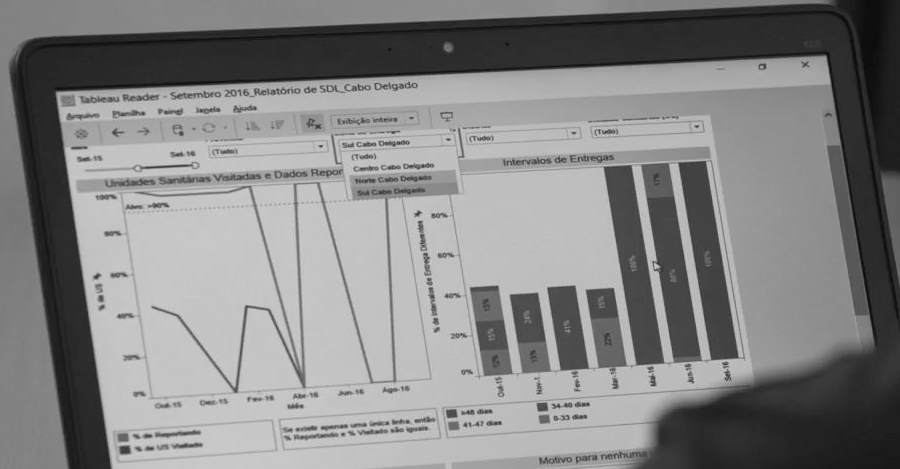
In this video, the first 6 minutes show how data from a Stock Management Physical Inventory can auto-populate the R&R for easy ordering.

The rest of the video also shows the full workflow for Requisitions, Orders, Shipments and Proof of Delivery.

Emergency Requisitions

<https://www.youtube.com/watch?v=NjQxAhwL5VM>

This demo shows Emergency Requisitions, which are not restricted to a periodic schedule. They have fewer columns and are used to request emergency supplies.



Dashboards

The following dashboard views will be available soon at both district and facility levels

Dashboards for COVID Vaccine Rollouts

Covid-19 Vaccine Dashboard

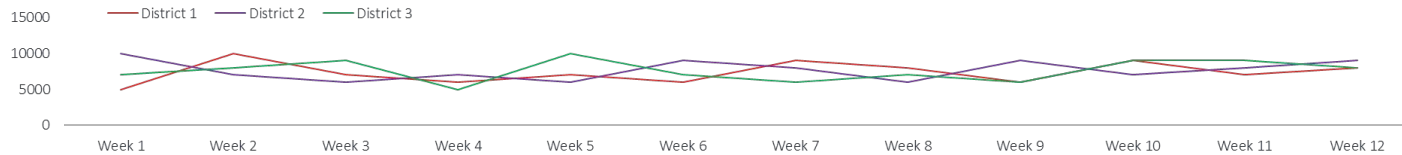
Filters

Province	▼	Antigen	▼
District	▼	Facility Type	▼
Start Date	▼	End Date	▼

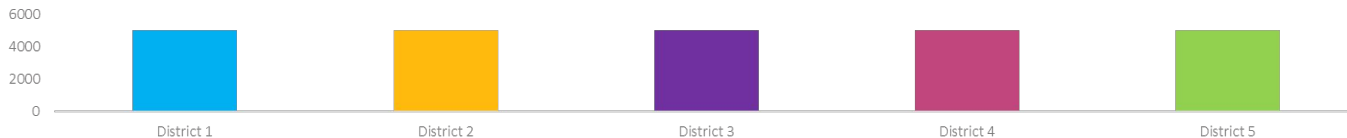
} Easy,
powerful
filters

Stock on Hand Stock Availability Distribution & Consumption Adjustments

Available Stock (by Period)



Available Stock (for filtered period)



} Relevant
COVID
vaccine
data

Covid-19 Vaccine Dashboard

This dashboard provides an overview of logistics indicators pertaining to Covid-19 Vaccines. Use the Filters to filter for time periods or facility types, and use the navigation links to navigate between pages.

Filters

Province



Antigen



District



Facility Type



Start Date



End Date

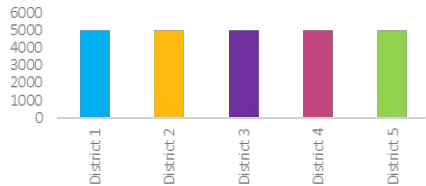
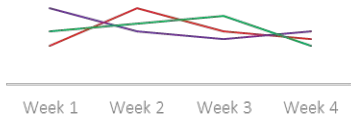


Stock on Hand

123,000 doses

*for last date in period

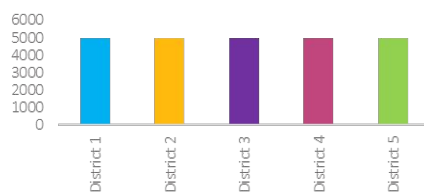
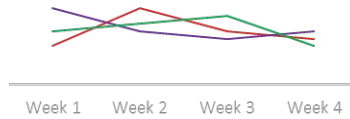
District 1 District 2 District 3



Consumption

82%

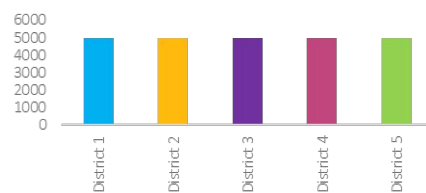
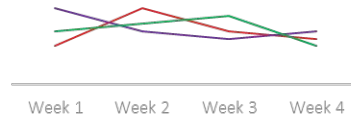
District 1 District 2 District 3



Stock Out

12%

District 1 District 2 District 3

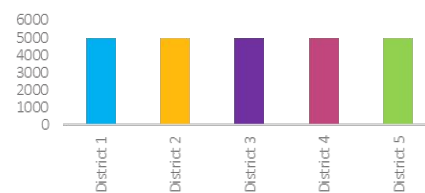
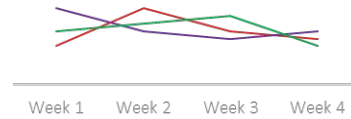


Wastage

2%

*open and closed vial

District 1 District 2 District 3



Covid-19 Vaccine Dashboard

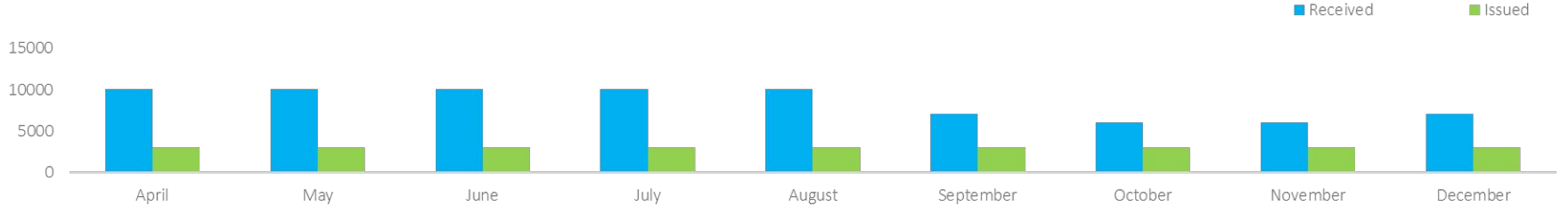
This dashboard provides an overview of logistics indicators pertaining to Covid-19 Vaccines. Use the Filters to filter for time periods or facility types, and use the navigation links to navigate between pages.

Filters

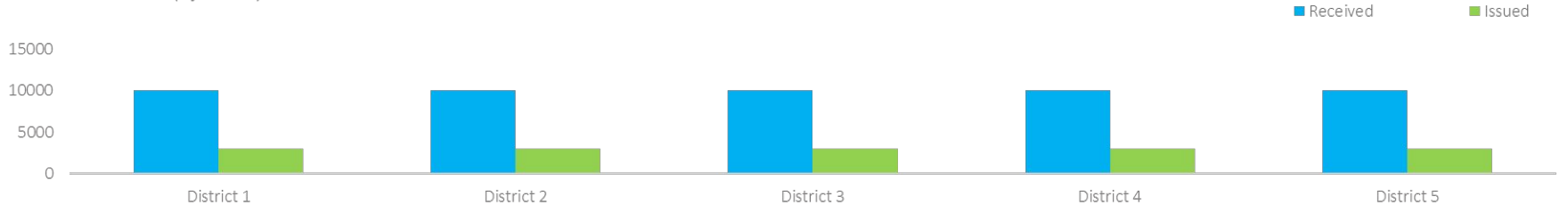
Province	▼	Antigen	▼
District	▼	Facility Type	▼
Start Date	▼	End Date	▼

Stock on Hand Stock Availability Distribution & Consumption Adjustments

Received & Issued (By Period)



Received & Issued (By Period)



Turn on Powerful Features As Needed

 Grow into powerful, responsive digital supply chains:

Cold Chain Equipment tracking: manage refrigerator functionality & use real-time temperature monitoring (RTM)

Proof of Delivery: track shipments and fulfillment

Cold Chain & COVID-19 Equipment

OpenLMIS offers Cold Chain features that can also be used to track ventilators, ICU beds, and other equipment

Cold Chain Equipment with RTM (remote temperature monitoring)

<https://www.youtube.com/watch?v=NqJetPhP-38>

This video shows the powerful ability to track CCE and integrate with RTM platforms.

Equipment Tracking for COVID

<https://www.youtube.com/watch?v=fDlvg7yzga4>

In this demo, we show the more generic equipment tracking that allows you to track locations, functional status, and repair history of COVID equipment such as ventilators.

Section Highlights

- ★ OpenLMIS offers simple workflows to quickly **start tracking COVID vaccines and supplies**
- ★ Consider starting with simple **Stock Management** or **R&R** workflows separately or using them together
- ★ Enable features such as **Cold Chain Equipment** at any time
- ★ Grow from emergency processes into **routine resupply**



2. Summary of What is Available

What is available now for free or at a cost?

OpenLMIS COVID Edition Availability

	<i>Available now, no cost</i>	<i>Coming soon, no cost</i>	<i>Cost / funding required</i>
OpenLMIS including COVID Edition features Stock Management, R&R, CCE & mobile offline support	✓		
Dashboards & Metadata COVID vaccine-ready dashboards and global metadata		✓	
Free Launch Package including configuration, cloud setup and training from VillageReach, CHAI & SolDevelo for 6 months	✓		
Native mobile app support, country-specific customizations, in-country data center and hosting setups, integrations, SMS			X

OpenLMIS COVID Edition Availability

OpenLMIS including COVID Edition features

Stock Management, R&R, CCE & mobile offline support

Dashboards & Metadata

COVID vaccine-ready dashboards and global metadata

Free Launch Package including configuration, cloud setup and training from VillageReach, CHAI & SolDevelo for 6 months

Native mobile app support, country-specific customizations, in-country data center and hosting setups, integrations, SMS

Features for COVID vaccine rollouts and PPE are available now and can evolve into routine resupply...

...and the **Free Launch Package** offers support to get started quickly

Free Launch Package

VillageReach, CHAI and SolDevelo are offering support to rapidly launch OpenLMIS for COVID

What is required?

- Approval from Ministry of Health
- Dedicated project manager in country
- Master data for facilities, users, products (we provide data collection templates)
- Computers/devices and internet access

Timeline

4 weeks to configure, launch, and test

Transition

We support handover to countries 6 months after deployment. We help countries source maintenance and support.

What's Included

- Configuration assistance
- Cloud hosting setup
- Master trainer training and admin training
- Master data templates
- 6 months of support free

Not Included (funding required)

- Country-specific code customization
- In-country hosting setups
- Country-specific integration
- Support after 6-month period
- Adding more programs (HIV, etc.)

Section Highlights

- ★ OpenLMIS COVID Edition is **ready now** for vaccine rollouts
- ★ **Free Launch Package** helps countries get started rapidly
 - If you already have OpenLMIS, we provide support to help add COVID vaccines and products into your configuration.
- ★ **Contact us** for a demo and to review if your needs are a fit
email info@openlmis.org



3. Resources and More Information

How to get started

Contact Us to Get Started

Contact us to get support with OpenLMIS COVID Edition or to get started with the Free Launch Package. These slides and demo videos are an initial offering based on current COVID vaccine rollouts, and we welcome your inputs and questions.

Contact Us

by **email** at info@openlmis.org

in **OpenLMIS Slack** (email us your name to request an invite)

at **Product Committee** meetings (see upcoming [meeting info](#))

More about OpenLMIS

OpenLMIS is used at 11,000+ health facilities and growing

OpenLMIS serves **all health programs** including vaccines, HIV, TB, Malaria, Essential Medicines, Nutrition and more

OpenLMIS has a **robust partner network** and open community structure

Learn more in our [Intro to OpenLMIS](#) slide deck

More about the Free Launch Package

Rapid support to launch OpenLMIS for COVID-19

Deployment Guidance (4 pages):

[https://openlmis.atlassian.net/wiki/download/attachments/821100553/Deployment%20Guidance OL%20for%20COVID June%202020.docx?version=3&modificationDate=1593173072531&cacheVersion=1&api=v2](https://openlmis.atlassian.net/wiki/download/attachments/821100553/Deployment%20Guidance%20OL%20for%20COVID%20June%202020.docx?version=3&modificationDate=1593173072531&cacheVersion=1&api=v2)

Implementation Team Roles:

<https://openlmis.atlassian.net/wiki/spaces/COVSUP/pages/852755846/Implementation+Team>

More Resources

Appendix 1. User Personas and Needs

Appendix 2. Prerequisites and Compatibility

OpenLMIS [YouTube Channel](#)

Previous [COVID Edition Documentation](#)

Questions? Contact Us

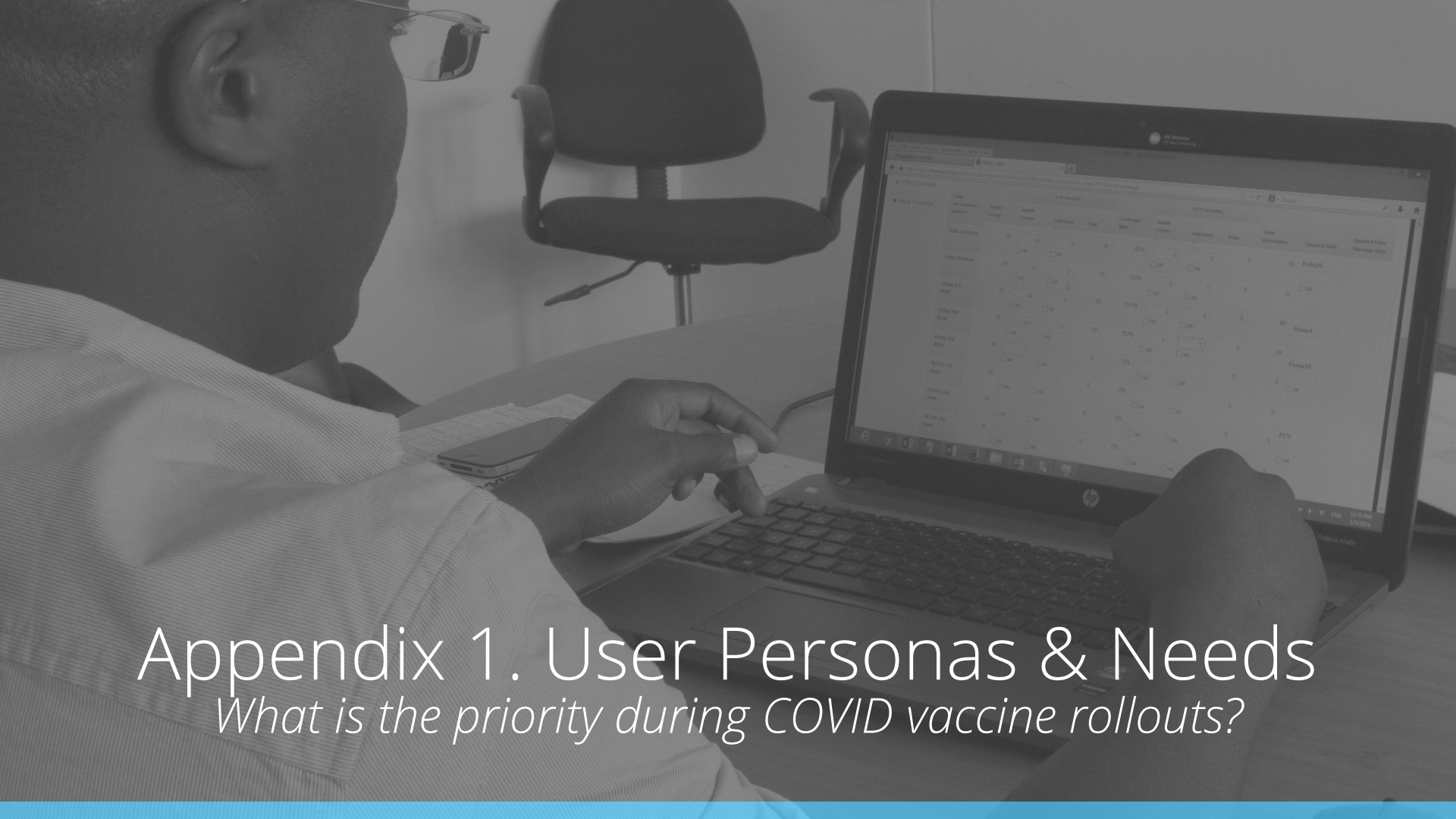
by **email** at info@openlmis.org





Thank You!

Appendices Follow



Appendix 1. User Personas & Needs

What is the priority during COVID vaccine rollouts?

Who uses OpenLMIS? What are their needs?

The top users and needs for COVID vaccine delivery:

Vaccine Warehouse Manager



Immunization Health Worker



Data and Dashboards for Supervisors:

District Supervisor (a.k.a. District Immunization & Vaccine Officer/DIVO) & Program Supervisor

Other Users:

Intermediate Level Logistician, Cold Chain Technician, System Administrator

OpenLMIS is used at **vaccine warehouses**

Vaccine Warehouse Manager



Goals:

Reduce/eliminate stock outs at my warehouse and supplied facilities

Reduce/eliminate expiries & wastage

Complete shipments/ distributions in a timely manner and accurately/ according to allocation policies

Activities and tasks:

Receive shipments			Manage inventory			Ship orders/ distributions	
Complete Proof of Delivery	Unpack delivery	Update Stock on Hand	Monitor CCE status	Monitor stock	Conduct physical inventory	Determine shipment quantities / Receive orders	Complete distributions /Fill orders

OpenLMIS is used at **vaccine delivery sites**

Immunization Health Worker



Goals:

Ensure sufficient vaccines for immunization needs

Reduce/eliminate expiries & wastage

Track and record key information (consumption, immunizations, AEFIs)

Activities and tasks:

Receive shipments			Manage inventory			Administer vaccines			Report & Requisition	Return unused stock
Complete Proof of Delivery	Unpack delivery	Update Stock on Hand	Monitor CCE status	Monitor stock	Conduct physical inventory	Prepare materials	Conduct vaccination session	Complete vaccination session	Complete periodic report	Determine shipment quantities

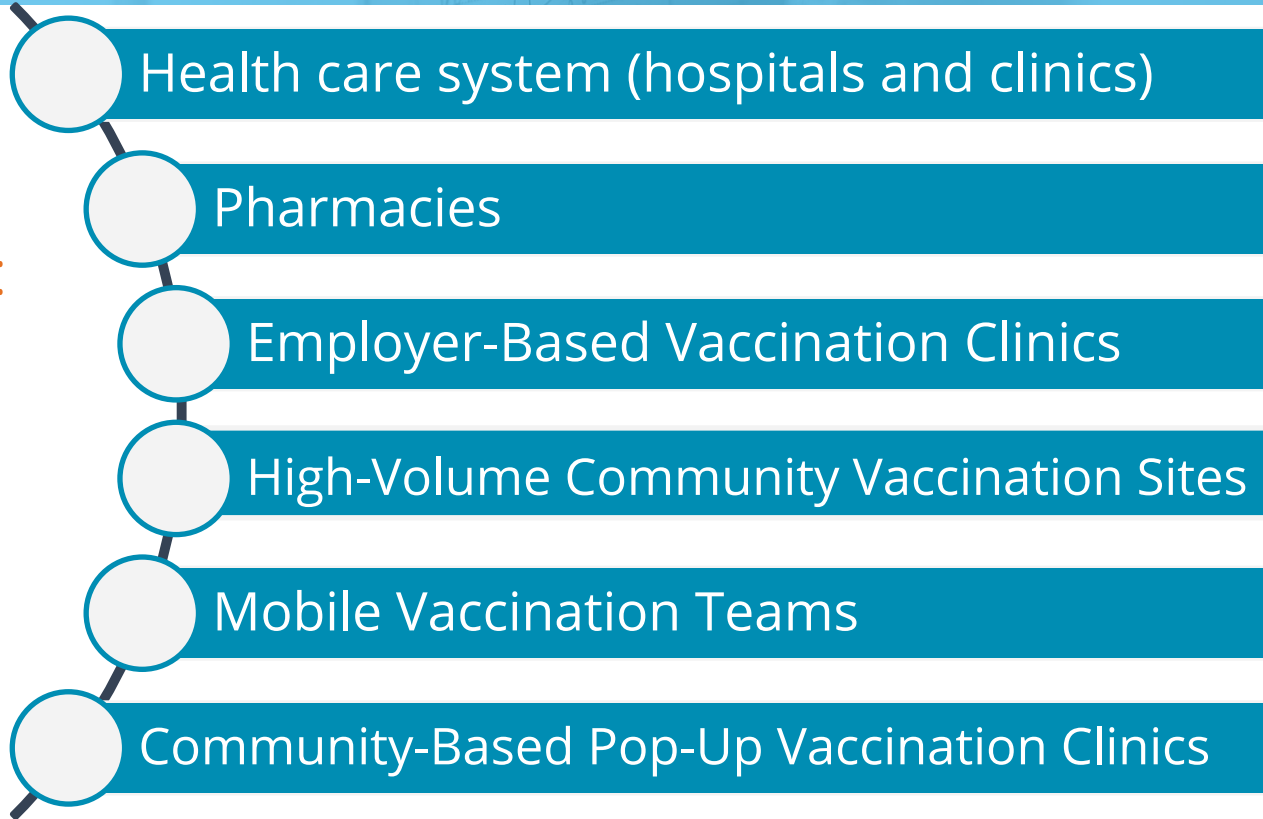
OpenLMIS is used at **vaccine delivery sites**

COVID vaccines can be delivered in many types of sites:



**Immunization
Health Worker**

The Health Workers in these formats vary in health and supply chain responsibilities



OpenLMIS in Context

Trustworthy supply chain stock data is a key element in the data ecosystems for COVID vaccine rollouts:

Before Vaccination

Community awareness, planning, and demand management

On Site

Track administered doses, patient follow up, and stock management

Health

Target Population
Identification &
Engagement

Eligibility Check,
Pre-registration
&/or Scheduling

Patient Register

Dashboards

Eligibility and demand
can inform allocations

Pre-registration helps
manage how many
people show up

Patient register
can automate
stock management
and ordering

Supply Chain

Supply Allocation
& Distribution



OpenLMIS

Stock Management & Logistics

Track Shipments
and Orders

Track Usage, Wastage
and Remaining Stock



Appendix 2. Prerequisites & Compatibility

What is needed to benefit from OpenLMIS COVID Edition?

Prerequisites for Using OpenLMS

Internet/Connectivity

- 2G or better required
- Must be online to log in
- **Offline support** allows users to fill out Stock Management and Report & Requisition offline
- Must be **online** to submit

Browsers

Firefox and Chrome are both supported

Device Requirements



Laptop/desktop

- Need 1G RAM for browser



Tablet

- Need Android Chrome browser

Smartphone (not recommended)

- User interface is not optimized
Requires zooming and scrolling

Languages

French, English, Portuguese, Spanish

More about Supported Devices and Testing at <https://openlms.readthedocs.io/en/latest/conventions/testing.html#supported-devices>

More about Language Translations at <https://openlms.atlassian.net/wiki/spaces/OP/pages/35487778/Translations>

Prerequisites to Configure OpenLMIS

Three key items need to be configured to use OpenLMIS for COVID vaccines:

1. **Facilities list** needs to include locations where vaccines are stored, administered and supply lines; this may require ongoing additions for mobile or COVID vaccine pop-up clinics
2. **User accounts** for end users with assigned roles/rights and training if they are new to OpenLMIS
3. **Products** need to be added for COVID vaccines and supplies (such as syringes)

If Stock Management will be used:

Add Adjustment Reasons including Consumed and Wastage; add Destinations and Sources

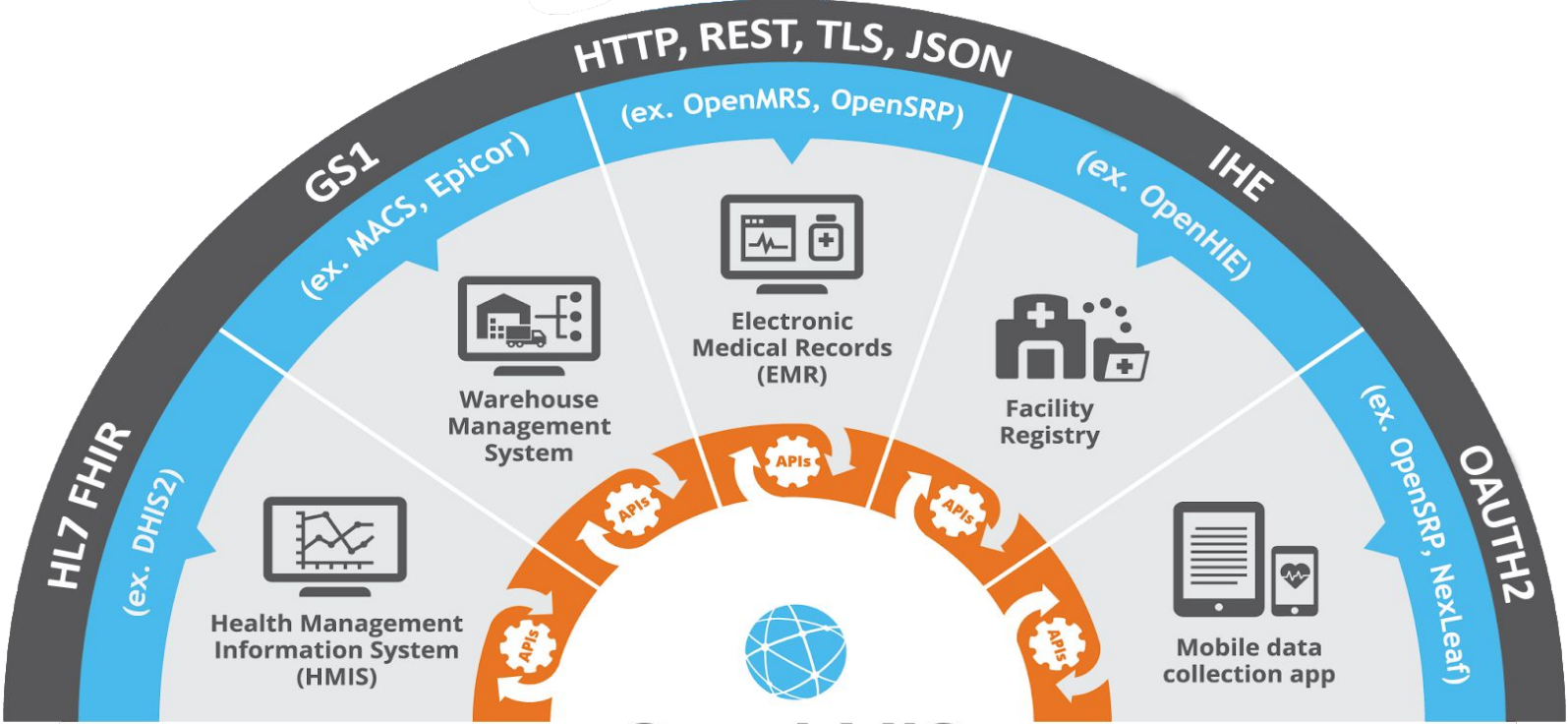
If Report & Requisition will be used:

Add Requisition period schedule (cannot be daily)

If Lots/Batches will be tracked (important for Adverse Events tracking and recalls):

Lot/Batch numbers and ongoing additions as new lots/batches enter the supply chain

Stronger together: Interoperability



Interoperability & Integrations

OpenLMIS supports many standards. Configuring them requires a cost and time (not in the Free Launch Package).

- DHIS2 (including the DHIS2 COVID-19 metadata package)
OpenLMIS publishes metrics and indicators in an interoperable format; see documentation and strategy
- OpenHIE facility registries
- product catalogs (including PCMT)
- FHIR (see documentation)
- ERP/WMS & more

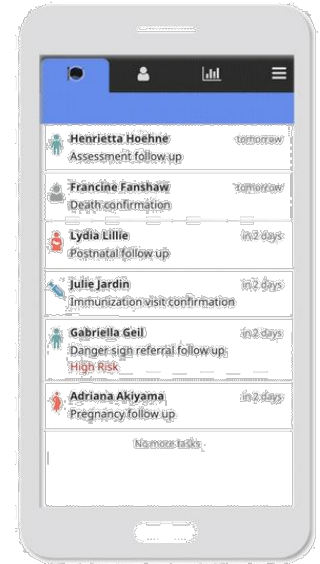
Integrations

OPENSERP

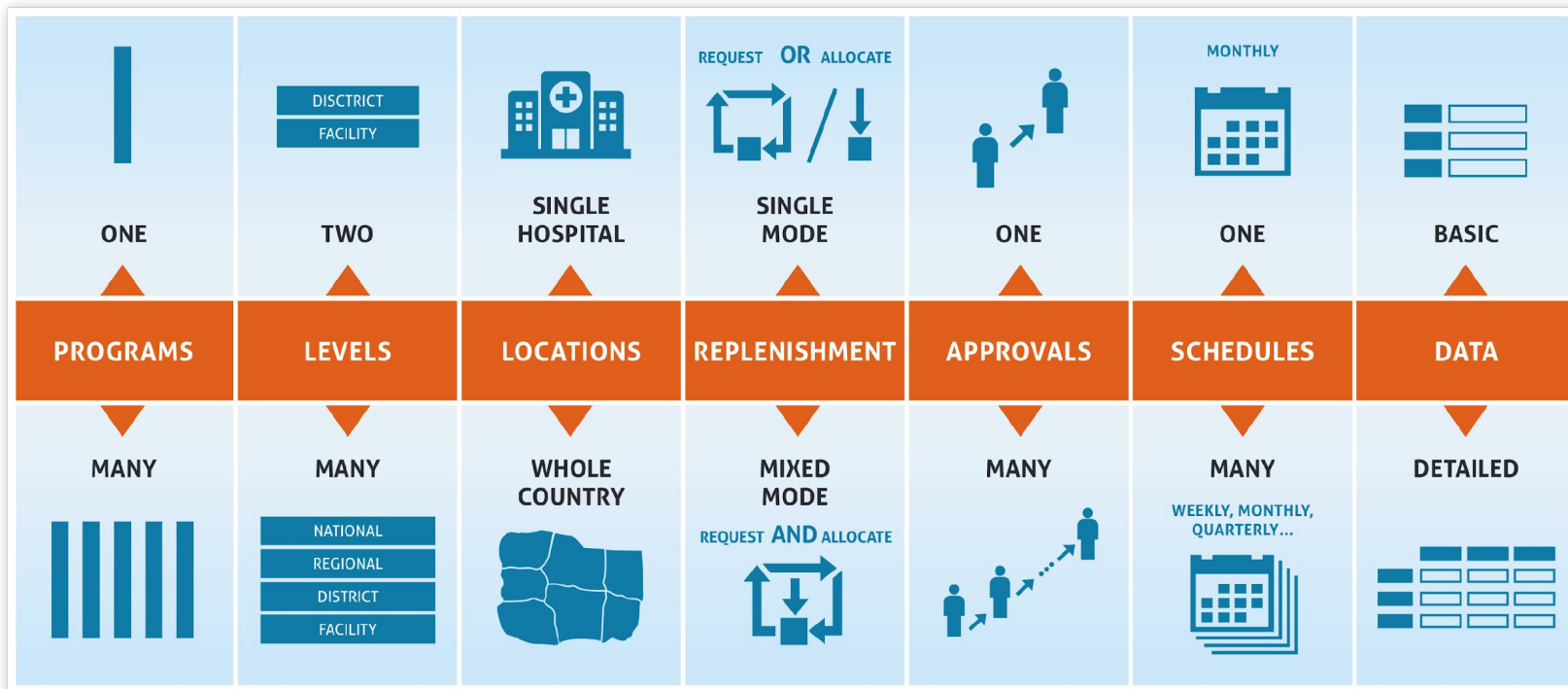
- Links to individual patients and their consumption
- **Connects dispensing & supply data at the point of care**

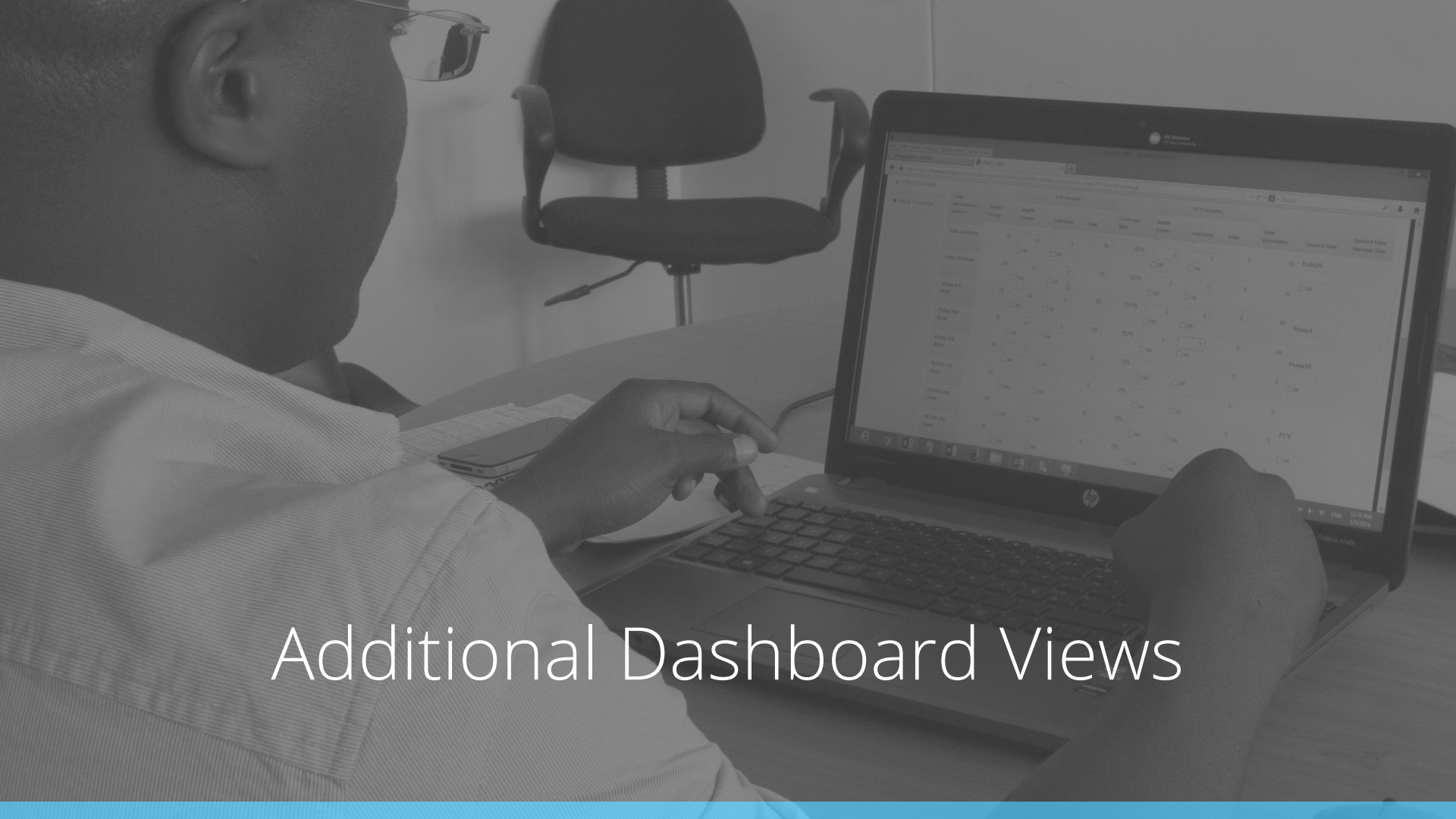
NEXLEAFTM ANALYTICS

- Remote Temperature Monitoring (RTM) capabilities
- **Notify users about outages in cold chain equipment**



Configurability





Additional Dashboard Views

Covid-19 Vaccine Dashboard

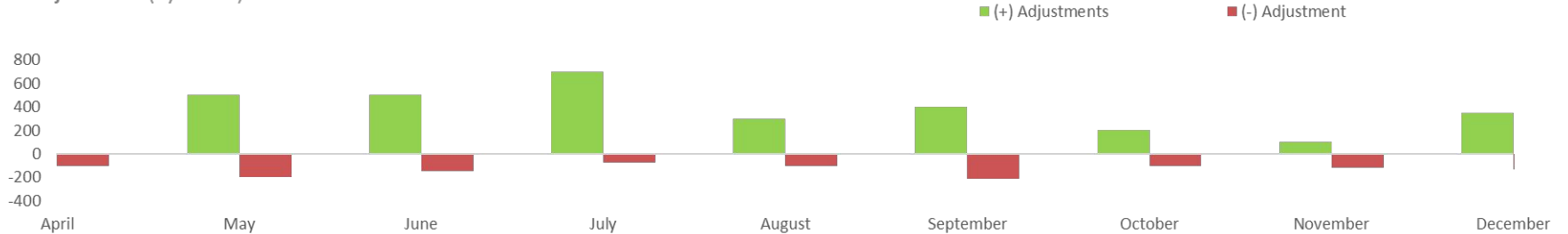
This dashboard provides an overview of logistics indicators pertaining to Covid-19 Vaccines. Use the Filters for time periods or facility types, and use the navigation links to navigate between pages.

Filters

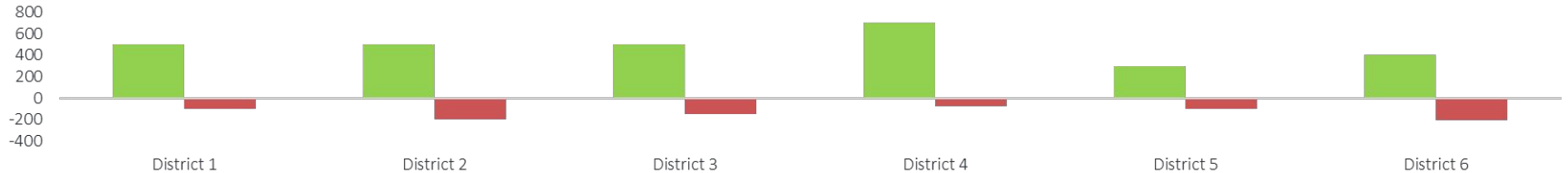
Province	▼	Antigen	▼
District	▼	Facility Type	▼
Start Date	▼	End Date	▼

Stock on Hand Stock Availability Distribution & Consumption Adjustments

Adjustments (by Period)



Adjustments (for filtered period)



Covid-19 Vaccine Dashboard

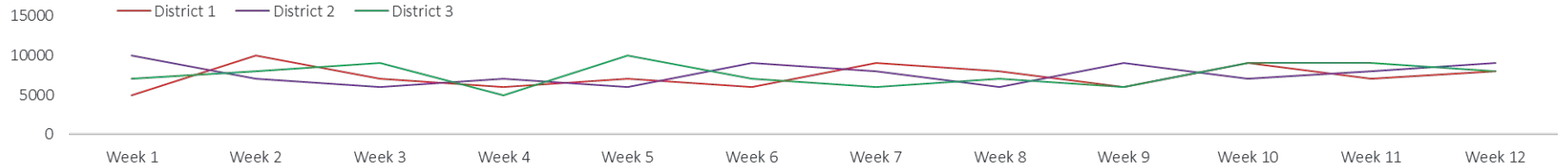
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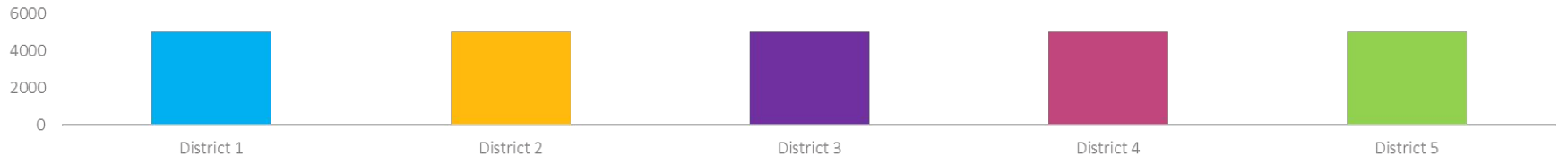
Province	▼	Antigen	▼
District	▼	Facility Type	▼
Start Date	▼	End Date	▼

Stock on Hand **Stock Availability** Distribution & Consumption Adjustments

Available Stock (by Period)



Available Stock (for filtered period)





Thank You