OPEN SOURCE SOFTWARE FOR MANAGING HEALTH SUPPLY CHAINS

An Introduction to OpenLMIS

Electronic LMIS:

An Essential Component of Supply Chain Improvement

Most Logistics Management Information Systems (LMIS) in low-income countries are paper-based systems that require manual data collection at almost every point in the supply chain. Electronic LMIS (eLMIS) automate this process, reducing manual data entry and hand calculations. The result is more complete, accurate and timely data for decision-making—essential to reducing stockouts, managing waste and losses, and operating an effective and efficient supply chain.

An eLMIS = Informed Decision Making:

- **Improves Data Accuracy**
- **Improves Data Timeliness**
- **Increases Accountability**
- **Increases Data Visibility**

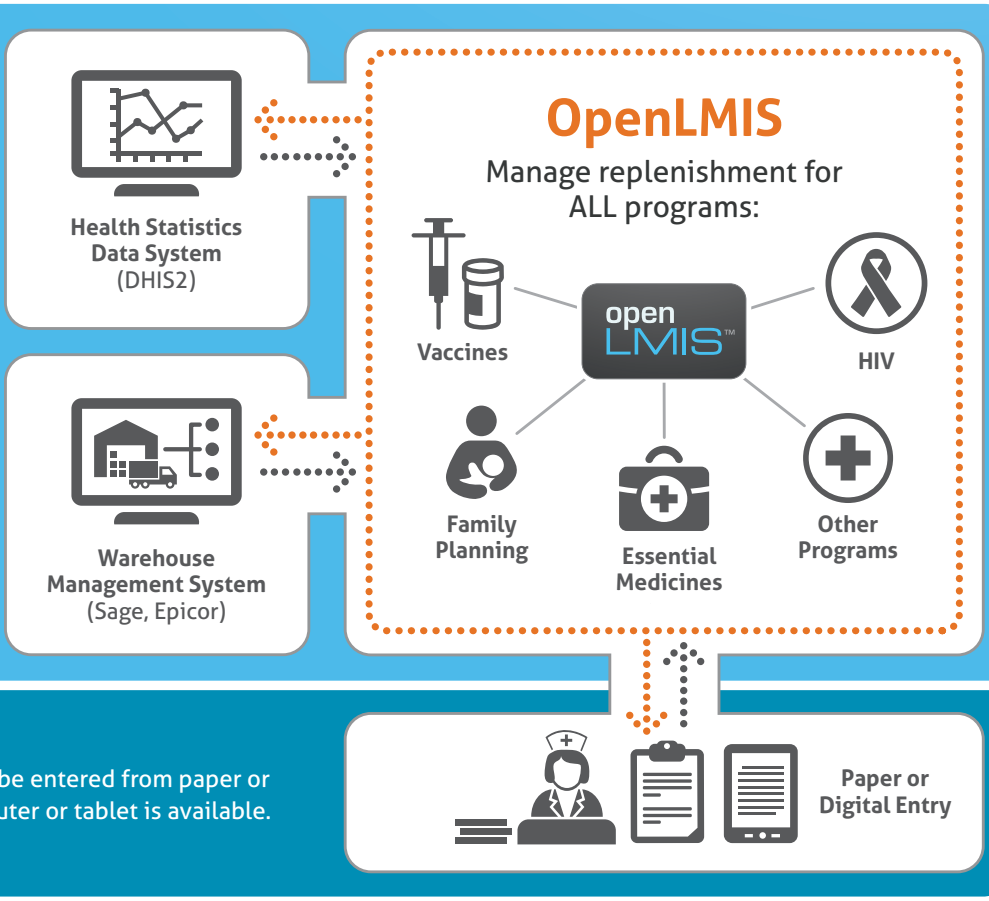
OpenLMIS and Health Information Systems

OpenLMIS is a state-of-the-art, open source, web-enabled, enterprise class eLMIS solution.

ONE System

Deployment of a stand-alone logistics management information system like OpenLMIS is considered a best practice in enterprise health information systems architecture.

Through interoperability, OpenLMIS can "talk" to other health information systems like DHIS2, Sage, etc.



At the facility level, data can be entered from paper or digital form, wherever a computer or tablet is available.

Why OpenLMIS?

Country-Driven. OpenLMIS is based on detailed requirements developed by multiple ministries of health.

Open Source. Non-proprietary, open-source solutions empower countries to own, customize, extend and manage their eLMIS, providing shared investment, shared learning and reduced up front development costs.

Support Community. The only open-source eLMIS solution supported by a diverse group of supply chain, information technology, software engineering and public health experts—all contributing to ongoing development and sustainability across multiple countries.

Interoperable. Developed to interface with other health information systems to enable comprehensive visibility.

Flexible. Adaptable to a country's specific supply chain needs—data collection forms, approval hierarchies, and the supply chain model can be easily configured for each program.

Designed for Low-Infrastructure. Specifically designed to facilitate data collection in low-infrastructure environments from point-of-origin to the point-of-delivery, enabling timely review, aggregation, analysis, and forecasting.

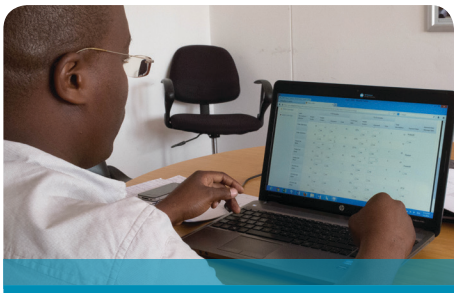
Why is OpenLMIS a Smart Investment?

Shared Investment

With OpenLMIS, countries are not paying to build a solution from the ground up, or reinvent one that already exists. Other countries and donors have pooled resources to create a non-proprietary product that is built on shared user requirements across multiple countries—initially tried and tested by nationwide, multi-program implementations in Tanzania and Zambia.

Shared Benefit

Enhancements made by individual countries can be contributed back to the OpenLMIS Community for others to access and use. Countries and implementing partners can share open-source software, tools and methodologies from which their eLMIS can be developed and customized for local deployments.



No Licensing Fees

There are no licensing fees typically associated with proprietary software development and maintenance. The software is freely available to download and build on.

What Does it Cost?

Implementing any software solution requires budget for initial configuration, customization, and training users; however the OpenLMIS software is freely available, with no initial or recurring licensing cost. The costs for implementing OpenLMIS vary greatly based on scale and the degree of customization needed. Current implementation costs have ranged from $85,000 for a regional implementation for a single program (i.e., vaccines only) with minimal customization to $2 million or more for a multi-program implementation at a national scale with substantial customization needs. *These costs are examples only—each implementation budget will be based on individual project/country requirements.*

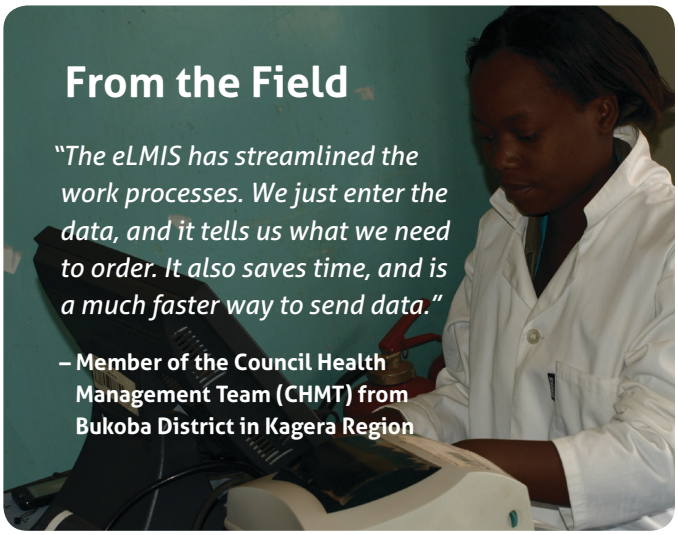
Results

Initial implementations of OpenLMIS have already reported significant efficiencies and improvements in health supply chain performance.

Timeliness

	With Manual Logistics Systems		With OpenLMIS
Time it takes health facility data to reach central level[1]	More than 15 days	→	Less than 1 day
Feedback report sent to health facility[1]	1-2 weeks	→	1 minute
Monthly report and order sent to district for approval[1]	3-5 days	→	1 minute
Monthly report and order sent to central level[1]	1-2 day wks	→	1 minute
Data available to decision makers[2]	1+ month	→	1 week

Electronic data entry
5 minutes faster
vs. paper data entry[2]
(per form completed)



From the Field

"The eLMIS has streamlined the work processes. We just enter the data, and it tells us what we need to order. It also saves time, and is a much faster way to send data."

– Member of the Council Health Management Team (CHMT) from Bukoba District in Kagera Region

Stockouts

	With Manual Logistics Systems		With OpenLMIS
Stockout rates for all product goods dropped from 32% to 23%[3]	32%	→	23%
Frequency of stockouts greater than 7 days dropped from 24% to 15%[3]	24%	→	15%

100% Accuracy is Possible

"The EPI data available via the paper forms at individual facilities matched perfectly with the aggregated data reported at the provincial level, reducing the time spent by district data managers correcting miscalculations. No other vertical program in the province had this level of data accuracy and quality."

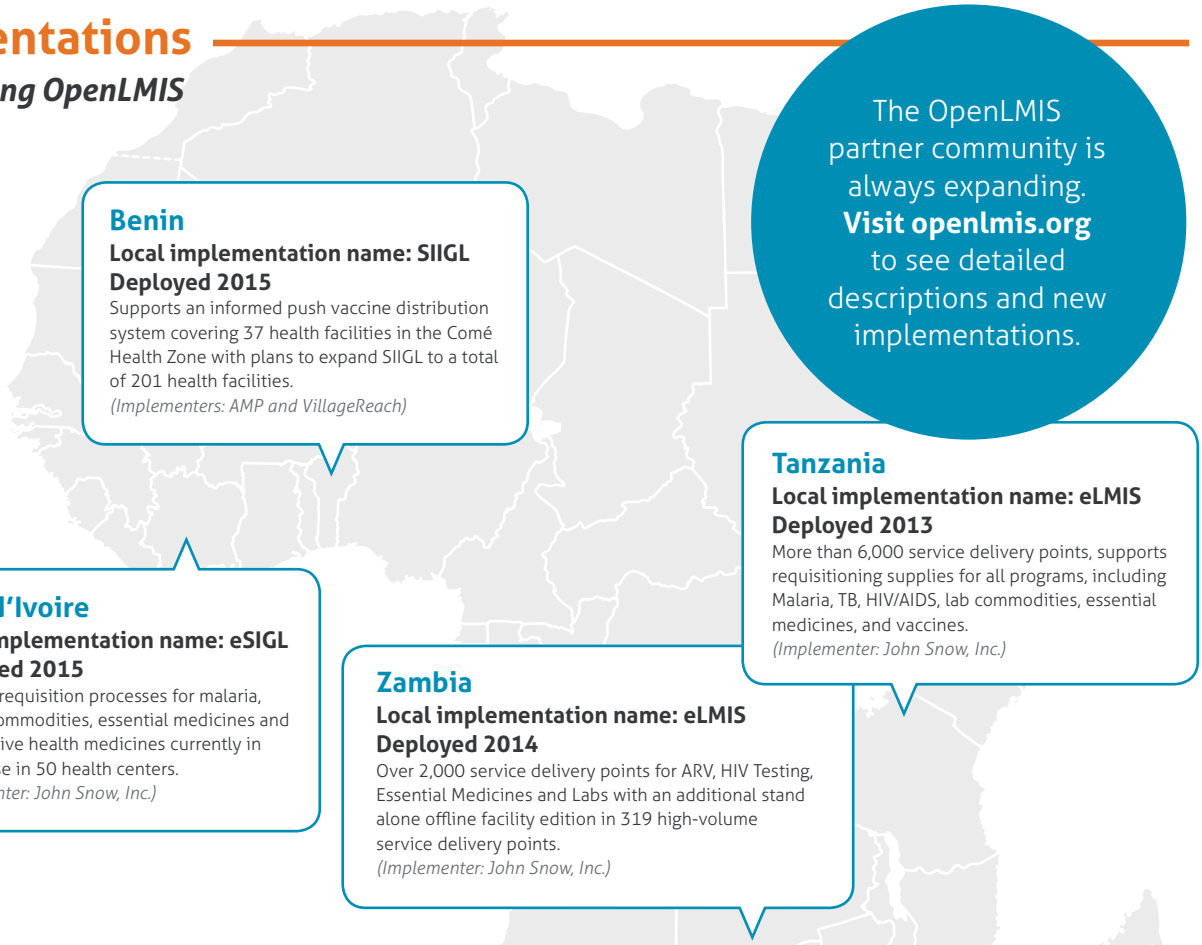
– Maputo Province Directorate of Health, Mozambique

Citations

1 - Manual LMIS vs. eLMIS, Zambia, as reported by John Snow, Inc.
2 - SELV, Mozambique, as reported by VillageReach
3 - eLMIS, Tanzania – results reflect eLMIS used in conjunction with comprehensive supply chain logistics improvements made via the LMU implementation, not eLMIS alone, as reported by John Snow, Inc.

Implementations

Countries using OpenLMIS



The OpenLMIS partner community is always expanding. **Visit openlmis.org** to see detailed descriptions and new implementations.

Benin

Local implementation name: SIIGL
Deployed 2015

Supports an informed push vaccine distribution system covering 37 health facilities in the Comé Health Zone with plans to expand SIIGL to a total of 201 health facilities.
(Implementers: AMP and VillageReach)

Cote d'Ivoire

Local implementation name: eSIGL
Deployed 2015

Supports requisition processes for malaria, HIV, lab commodities, essential medicines and reproductive health medicines currently in pilot phase in 50 health centers.
(Implementer: John Snow, Inc.)

Tanzania

Local implementation name: eLMIS
Deployed 2013

More than 6,000 service delivery points, supports requisitioning supplies for all programs, including Malaria, TB, HIV/AIDS, lab commodities, essential medicines, and vaccines.
(Implementer: John Snow, Inc.)

Zambia

Local implementation name: eLMIS
Deployed 2014

Over 2,000 service delivery points for ARV, HIV Testing, Essential Medicines and Labs with an additional stand alone offline facility edition in 319 high-volume service delivery points.
(Implementer: John Snow, Inc.)

Mozambique

Local implementation name: SELV
Deployed 2014

Supports an informed push model for vaccine distribution to more than 800 health centers serving over 8 million people. SELV is the information system supporting the Dedicated Logistics System (DLS), a comprehensive supply chain redesign effort to streamline the supply chain in Mozambique.
(Implementer: VillageReach)

> *"This system [combined with other logistics changes] gives us more visibility into the data coming from the health centers with improved frequency, regularity, and quality. This has made the data credible, creating more confidence in the distribution system and in the government while providing more evidence for decision making."*
>
> **– Bertur Alface**
> ***Medical Chief of Gaza Province in Mozambique***

OpenLMIS Community: A Global Team of Partners and Donors

Bill & Melinda Gates foundation
The Rockefeller Foundation
PEPFAR
UNFPA
Life Saving Commodities Improving access, saving lives
Clinton Health Access Initiative
PATH
JSI
amp Agence de Médecine Préventive
VillageReach Starting at the Last Mile
ThoughtWorks
Gavi The Vaccine Alliance
USAID From the American People | DELIVER PROJECT