





USAID eSCMIS

PROJECT YEAR 2. FY2021

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ACRONYMS

AIDSFree	Strengthening High Impact Interventions for an AIDS-free Generation
ССВ	change control board
CE	central edition
CHAZ	Churches Health Association of Zambia
eLMIS	Electronic Logistics Management Information System
eSCMIS	Electronic Supply Chain Management Information System
FE	facility edition
FY	fiscal year
G2G	government-to-government
GRN	goods received note
GRZ	Government of the Republic of Zambia
IMPACT	Information Mobilized for Performance Analysis and Continuous Transformation
ІСТ	information, communication, technology
IR	intermediate result
JSH	John Snow Health Zambia Limited
JSI	John Snow, Inc.
M&E	monitoring and evaluation
MEL	monitoring, evaluation, and learning
МОН	Ministry of Health
OJT	on-the-job training
PPP	public-private partnership
R&R	report and requisition
SO	strategic objective
TSS	technical supportive supervision
TWG	technical working group
USAID	United States Agency for International Development
ZAMMSA	Zambia Medicines and Medical Supplies Agency
ZICTA	Zambia Information, Communication and Technology Agency

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THE USAID eSCMIS PROJECT

The five-year USAID eSCMIS project builds on the success of the electronic logistics management information system (eLMIS) in Zambia, which was formally implemented by John Snow, Inc. (JSI) with support from USAID, in partnership with the Ministry of Health (MOH), Zambia Medicines and Medical Supplies Agency (ZAMMSA), and other key supply chain partners. John Snow Health Zambia Limited (JSH) is mandated to support the transition of the eLMIS into the next-generation logistics information system through the USAID eSCMIS project. JSH is the prime contractor on the USAID eSCMIS project, with JSI and Churches Health Association of Zambia (CHAZ) as subcontractors.

The USAID eSCMIS project is supporting the Government of the Republic of Zambia (GRZ) and the MOH to improve supply chain efficiency through digitalization and ensuring sufficient quantity and quality of essential medications, laboratory commodities, and malaria, HIV, and family planning products are available at health facilities in Zambia. This objective is aimed at fostering a supply chain that is safe, secure, reliable, and sustainable. Project Objectives include:

Implement a next generation eLMIS

Enable GRZ to make data driven supply chain decisions independently Transfer eLMIS leadership to ensure GRZ can take ownership of its data and reporting systems.

The project envisions a health logistics system that is fully automated from central to facility level and is well-suited to Zambia's challenges. The primary objective of the USAID eSCMIS project is to ensure that the eLMIS is not only cutting-edge, but also improves supply chain visibility to support enhanced decision-making, increases accountability, and is locally owned.

The public health policy environment in Zambia is supportive of the eLMIS. The National Health Strategic, Plan (2017–2021), the eHealth Strategy (2017–2021), and the Health Sector Supply Chain Strategy (2018–2021) all contain this commitment. As these are updated in 2022, the project will continue to advocate for inclusion of electronic technologies.

BACKGROUND

Overview of the Zambian Supply Chain

Zambia's supply chain has been digitized since 2014. Its (approximate) 2,800 health facilities are located in 116 districts and 10 provinces. Some of these facilities manage their inventory and order products through the eLMIS facility edition (FE), which is linked to the Central Edition (CE) that is used nationally for order management and resupply. At the end of the month, the data is aggregated and a report and requisition (R&R) is generated and sent to the eLMIS CE for resupply. Facilities without eLMIS FE complete a paper-based R&R that district personnel enter into the eLMIS CE. All R&Rs in CE are resupplied from the ZAMMSA, where the Commodity Security Centre reviews, approves and converts them into an order that is entered into WHXpert, the warehouse management system (WMS). CHAZ, an MOH partner, also holds and supplies goods via a separate pharmaceutical warehouse. eLMIS FE is installed in over 90% of CHAZ's faith-based-connected health facilities. Figure I shows the Zambia supply chain business process.

Figure 1. Zambia Supply Chain Business Process Commodity & Data Flow



USAID eSCMIS PROJECT FY2021



In collaboration with the MOH, the project began the deployment of eLMIS FE to new health facilities in all 10 provinces, with advanced planning in equipment purchase and site selection. By the end of FY21,433 deployments were completed by the USAID eSCMIS project making the cumulative number of eLMIS FE health facilities deployed to 1,102. Of the 433 deployments completed, 35% were entirely deployed by MOH, and the remainder were a collaboration between project staff, MOH champions, and MOH super-users. The project has continued to convert the software into the next-generation eLMIS through an MOH-led change control process and regular updates, with 90 user stories (software enhancements) of the 243 planned for the projects lifespan completed. Furthermore, through mentorship during activities such as system updates, deployments, and technical support, the

project has significantly strengthened the ability of provincial and district MOH professionals to support the system. The project made significant strides in all three strategic objectives as is shown below



Although starting fiscal year (FY) 2021 slowly due to the COVID-19 pandemic, the USAID eSCMIS project exceeded annual targets for implementation of key project activities such as eLMIS deployments, health facility staff training, transitioning project activities to MOH, and incorporating new system enhancements.



John Sikasote, USAID eSCMIS Chief of Party

"Under the USAID eSCMIS Project, we are continuing to support the GRZ to enhance, implement and support the eLMIS throughout the country. One of the major accomplishments we plan to achieve under this project, in addition to having the eLMIS installed at approximately 70% of the public health facilities nationwide, is to successfully transition the management of the eLMIS to the GRZ by 2025."

KEY ACCOMPLISHMENTS





108%

Completion of the targeted number of deployments with **433** health facilities deployed by the project compared to the planned **400**



148% Completion of the targeted number of system enhancements, with 90 enhancements completed by the project compared to the planned 61

IMPLEMENT A NEXT-GENERATION eLMIS

The next-generation eLMIS is expected to be an advanced suite of digital tools that will revolutionize health commodity management. By automating inventory management at health facilities, commodities can be tracked from the central warehouse to consumers at service delivery points across Zambia.

eLMIS DEPLOYMENT

There were numerous challenges in FY21 including two waves of COVID-19, subsequent travel bans, and presidential and parliamentary elections resulting in a period of no-travel to allow voting and ensure safety in case of violence. However, with safety measures put in place for COVID-19 travel and a peaceful transition of governments, the project achieved 108% completion of eLMIS FE deployments exceeding its target, with 430 health facilities deployed by the project compared to the planned 400. An additional three facilities were deployed by GRZ using G2G funding and staff support in quarter I, resulting in a total of 433 facilities deployed with eLMIS FE in FY21. This increased the number of active eLMIS FE sites to 1,102, representing approximately 40% of the total active public health facilities in the country and approximately 87% of the PEPFAR TX curr is reported at these 1,102 facilities.

SYSTEM ENHANCEMENTS

The countrywide system requirements assessment conducted in FY20 resulted in elicitation of 243 user stories/requirements for incorporation into the eLMIS. The project achieved 148% completion of the targeted number of system enhancements, exceeding its initial target of 61 for enhancements for FY21. With the planned number of enhancements set at 61 for the year, 90 were completed by the end of FY21. In addition to this, several reported system bugs were worked on and additional enhancements deployed during the year to ensure smooth functioning of the system and uninterrupted reporting for health facilities. The fiscal year's completion rate represents 37% of the life-of-project target for enhancements. The MOH-led Change Control Board (CCB), which includes participants from MOH, ZAMMSA, and other supply chain partners, reviews and approves all enhancements and changes. When the system changes were complete, the project showcased them through seven webinars for users and stakeholders.

TECHNICAL SUPPORT AND SUPERVISION

The USAID eSCMIS project was no exception when it came to adapting to COVID-19 prevention and mitigation protocols. Tasked with, among other activities, providing hardware repairs to eLMIS FE facilities, the project's information communication and technology (ICT) department devised a way to repair equipment without in-person visits. Using the organization's courier system, faulty equipment was sent for repairs, fixed, and returned to facilities. By the time travel restrictions eased, **34 pieces of equipment had been repaired and returned to health** facilities, reducing system down time. During this period, system technical supportive supervision (TSS) was also offered remotely through a toll-free call center linked to the customer relations management system (CRM), TeamViewer and AnyDesk software. This became the major support system for existing and new eLMIS FE sites.



ENABLE GRZ TO MAKE DATA-DRIVEN SUPPLY CHAIN DECISIONS INDEPENDENTLY

With the interaction of eLMIS FE and CE, data can be accessed at different levels for varying uses in program management. District and provincial health staff can use it to manage product redistribution to prevent stock outs, overstock, and wastage through expiries or losses. This enables an order and supply process that enhances accountability of public and donor resources used to procure health commodities and ensure availability for clients.

SYSTEM HARMONIZATION

The project integrated eLMIS and SAGE following conversations with USAID, ZAMMSA, MOH, GHSC- PSM. The integration was developed, tested and ready for implementation. Just as the integration was ready to go live on June 14, the process was halted by ZAMMSA until the business processes and staff training were aligned.

USAID then requested for WHXpert to be interfaced with eLMIS. Requirements were gathered and the WHXpert team provided costing. The project also developed costing as this was not in the original work plan. The consortium has agreed on this new integration pending financial resources. The subject is an ongoing topic in the monthly CCB meetings.

Additionally, after following up for most of FYs 2020 and 2021, BroadReach/CDC shared an update on development of a web-based SmartCare version, indicating willingness to restart integration activities with eLMIS. With the transition of the SmartCare management to a new partner, this activity will be reignited in FY22.

ENHANCED DASHBOARDS AND ANALYTICS

In FY21, the project enhanced the FE and CE software with key dashboards and analytics to increase use of the eLMIS data for decision making. The project has continued to have bi-weekly meetings with GHSC-PSM and has incorporated some key reports into CE. So far, the consumption and reporting timeliness have been completed, among other reports. This includes two new dashboards with national stock status and consumption patterns by facility which will be used in the newly initiated IMPACT teams and key partners such as GHSC-PSM.



FORMATION OF IMPACT TEAMS

The IMPACT team strategy aims to improve data use and accountability for public health resources and other health commodities supplied to service delivery points. The formation of district, provincial, and national IMPACT teams was guided by an MOH approved strategy. In quarter 3, the project initiated the national IMPACT team meeting and trained all eLMIS champions and super-users on the functionality of the IMPACT teams. In quarter 4, the project used the eLMIS champions and super-users to initiate district level training to improve MOH staff capacity to use eLMIS data to make supply chain decisions. Of 116 districts in 10 provinces, staff from 32 districts and two complete provinces were trained and these districts held the inaugural IMPACT team meeting with the help of the project. These teams will be pivotal to continuing the district and provincial level IMPACT teams to improve data use.



BEGIN TRANSFER OF eLMIS LEADERSHIP TO ENSURE GRZ CAN TAKE OWNERSHIP OF ITS DATA AND REPORTING SYSTEM

The government taking over leadership of the eLMIS project activities is the main focus of the Sustainability and Transition Plan. Key to achieving this is consistent involvement of MOH staff in deployments, on-the-job training (OJT) and TSS at provincial and district levels throughout the life of the project.

The USAID eSCMIS project has over the last two years worked with MOH champions and super-users and built their capacity to deploy and provide technical support to health facilities. These activities have increased MOH participation in eSCMIS activities.

SUSTAINABILITY AND TRANSITION PLAN

The Sustainability and Transition Plan was approved by MOH. The Procurement and Supply Chain technical working group (TWG) meeting was held during quarter 3, with key recommendations in support of the implementation of the Sustainability and Transition Plan. The TWG resolved to establish subcommittees, led by MOH, to oversee key supply chain activities such as quantification and electronic systems that are instrumental in enhancing the use of data for decision-making. This is expected to improve central-level coordination for Sustainability and Transition Plan implementation. Subsequently, the Sustainability and Transition Plan was approved by the MOH and USAID in quarter 4. The project began setting the stage for implementation of some of the key activities centered on transfer of technical skills from project to GRZ.

MINISTRY OF HEALTH LED DEPLOYMENTS AND TRAININGS

USAID eSCMIS project effort to build capacity and transfer skills to MOH grew steadily in FY21.With the annual target set at 35%, MOH reached this target, with **151 of the 433** health facilities deployed independently by MOH champions and super-users at district and provincial levels. With this achievement, the project hopes to increase the MOH footprint in project activities across the country in line with the gradual transition outlined in the Sustainability and Transition Plan. The smooth handover of maintenance and support activities for the eLMIS is key to the success of the USAID eSCMIS project.

Of the 2,450 health facility staff trained, 89% were trained by MOH staff during deployment and TSS activities. The project exceeded the FY21 target of 50%. During the year, TSS for eLMIS was a collaborative effort between the MOH staff and USAID eSCMIS project staff.

PUBLIC PRIVATE PARTNERSHIPS (PPP)

In FY21 the first PPP was approved. The project and MOH managed to meet with the Zambia Information and Communication Technology Authority (ZICTA) and secured approval to conduct a pilot in two facilities to test TV White Space. By the end of FY21, the MOH was following up on an official letter to begin the pilot. This will significantly contribute to evidence on the feasibility of implementing this public-private partnership to improve low-cost internet access at rural health facilities.



of the **433** health facilities deployed independently by MOH champions and super-users at district and provincial levels





SUCCESS STORIES



EVIDENCE-BASED DECISION MAKING FOR AN EFFICIENT SUPPLY CHAIN



Mr. Lovely Soneka, Pharmacist In-charge, Boma Rural Health Centre, Mufumbwe district of North-Western Province, Zambia.

Zambia has made significant strides in establishing data-driven supply chain decision-making through the electronic logistics management information system (eLMIS). Systematically implemented, this software collects high-quality data that is consumable at all levels of the health supply chain.

These evidence-based decisions made by supply chain managers lead to action that aids strategic planning and clinical improvements. Easily accessible supply chain data has bridged the gaps between health facilities in commodity supply and helped find local solutions for supply chain problems.

Mr. Lovely Soneka, Pharmacist In-charge, Boma Rural Health Centre, Mufumbwe district of North-Western Province, Zambia.

On March 12, 2021, Zambia celebrated Youth Day with musical performances, sports activities, workshops, and marches. Public health organizations and

advocates use holidays like Youth Day to raise awareness on issues such as gender-based violence, family planning, and HIV, this includes mass testing programs which translate into a spike in the consumption of HIV-related health commodities, such as test kits.

"This has been a trend for years; the average monthly consumption for HIV-related commodities tends to be high in March," says Mr. Lovely Soneka, the pharmacist in-charge from Boma Rural Health Centre in the Mufumbwe district of North-Western Province, Zambia. "We see a large number of clients because of how many activities we tend to have during Youth Day. By observing data in the eLMIS, we have been able to forecast accurate consumption data based on patterns we've seen over the years."

As shown in Figures 1 and 2, national consumption trends of HIV test kits have become predictable, aiding supply chain managers in data visualization for strategic planning. The average monthly consumption of Feb – April for both 2019 and 2020 is significantly less than the consumption in March (10 percent in 2019 and 7 percent in 2020). Readily available data are integral to making efficient health commodity supply chain decisions, without which commodity availability is unreliable and lifesaving drugs are wasted.





Ms. Caroline Tembo, District Pharmacist for Mpika district in Muchinga province, Zambia.

Easy access to accurate consumable supply chain data has been a key benefit of the eLMIS. The USAID eSCMIS project, implemented by JSH in collaboration with the Ministry of Health (MOH), Zambia Medicines and Medical Supplies Agency, John Snow Inc., and the Churches Association of Zambia, is tasked with eLMIS management, deployment, and sustainability. One of the project's main objectives is to ensure the government can make data-driven supply chain decisions independently.

As someone who has to make supply chain decisions constantly, Ms. Caroline Tembo, District Pharmacist for Mpika in Muchinga Province, affirms that the eLMIS helps supply chain managers identify patterns for future forecasting, have accurate commodity quantities in health facilities, and strengthen health care networks."Part of my job is ensuring health facilities in my district have between the minimum and maximum levels of stock," says Caroline, "Just recently, using data from eLMIS, I was able to resupply two health facilities with infusion-giving sets by requesting the

commodity from Mukungule Health Post, which had an overstock of the product."

The USAID eSCMIS project is constantly striving to improve eLMIS data quality and add tools that aid data-driven decisions because evidence-based supply chain decisions yield better health outcomes.

2 TRANSITION FOR SUSTAINABILITY: DEPLOYING THE ELMIS IN ZAMBIA



Roy Simukonda, MOH Lab Coordinator for Chadiza district in the Eastern province

A challenge for all development project is sustainability when they end. Zambia has over 2,600 health facilities, and the USAID Electronic Supply Chain Management Information System (eSCMIS) Project is responsible for supervising, deploying, and improving it electronic logistics management information system (eLMIS), the country's preferred health logistic system. The project's purpose is to see that the eLMIS is upgraded regularly, enhances supply chain visibility for better decision-making;

increases accountability; and is locally owned and operated.

To this end, the USAID eSCMIS implemented a sustainability and transition plan (STP) to help the Zambian Ministry of Health (MOH) take over eLMIS deployment and operational support, including software development, governance, monitoring and evaluation, and financing. Of 209 new eLMIS facility deployments in 2021, MOH has led 164 (78%) with USAID eSCMIS support and 45 (22%) deployments without it.

In addition, through various trainings and skills transfer programs, the project has identified 54 provincial MOH staff members, known as eLMIS champions, who have advanced knowledge of the eLMIS to serve as the initial point of contact for facility workers in need of technical assistance and supervision. For the remainder of 2021, the project, with MOH personnel in leadership roles, plans to deploy eLMIS Facility Edition (FE) to 400 new locations.

Roy Simukonda, MOH lab coordinator for Chadiza District in the Eastern Province, said "The Chanida Rural Health Clinic in Katete was my first deployment without project supervision. I was joined by two colleagues from the district health office's lab and pharmacy sections. I especially appreciated the warm welcome we received at the site, as well as the [staff's] eagerness to learn and participate in the deployment. I have since led seven other deployments in Chipata District, working with different pharmacy and lab personnel who are all learning about the operation of our logistics software and how to best manage it."

Over its course, USAID eSCMIS intends to rapidly implement eLMIS FE to 1,200 facilities. By its end, with the help the help of a small, highly skilled core team to coach and supervise district-level peer teams and eLMIS champions, MOH will have sole responsibility for the deployment.

3

ADAPTING THE ELMIS TO ACCOMMODATE THE EMERGENCY RESPONSE IN HEALTH COMMODITY SUPPLY DURING COVID-19



Kaluwila Chigembu, Pharmacist at Lusaka's Levy Mwanawasa University

Teaching Hospital.

The COVID-19 pandemic has wreaked havoc on health care systems and provision around the world. In Zambia, it necessitated changes in supply chain design and technology to handle the large-scale distribution of COVID-19-related products.

Because it was a new disease, some COVID-19-specific commodities were unavailable in the mainstream supply chain. In an effort to allocate such commodities to provinces in an equitable way, the Ministry of Health (MOH) introduced a system in which district health facilities submitted paper reports to provincial health offices (PHOs) detailing their COVID-19-related commodity inventory and orders. The PHOs aggregated the reports and submitted data from them to the eLMIS Central Edition. This process lengthened the supply chain's overall turnaround time.

The epidemic, noted Kaluwila Chigembu, a pharmacist at Lusaka's Levy Mwanawasa University Teaching Hospital, touched every aspect of the supply chain. "We would

receive COVID-19 patients with underlying conditions such as cancer, asthma, diabetes, and HIV. We had to make sure that not just COVID-19 products were readily available, but also basic mobility medications for immune-compromised patients, all while working with unpredictable consumption data".

To phase out the time-consuming paper-based system, the USAID Electronic Supply Chain Management Information System (eSCMIS) Project worked with the USAID DISCOVER-Health project, implemented by JSI, the MOH and the Zambia Medicines and Medical Supply Agency (ZAMMSA), to incorporate COVID-19 products into the eLMIS. Frontline supply chain managers, such as employees at facility labs and pharmacies, have helped their facilities report and order required commodities on time by providing real-time data on supply chain requirements. This not only streamlined logistics from start to finish, but it also provided much-needed visibility into the movement of vital COVID-19 commodities.

The new product supply and data flow establishes a consistent management framework for all COVID-19 product logistics delivery. Dashboards and data for COVID-19 commodities are now available at the national, subnational, and district levels, all of which display stock on hand and consumption patterns.

eLMIS CENTRAL EDITION FOR EFFICIENT SUPPLY CHAIN MONITORING



4

"I knew the electronic logistics management information system (eLMIS) would be useful, especially for remotely supervising the supply chain. But I didn't realize how important it would become for ensuring the facilities in my district have good commodity availability," says Faith Banda, the district pharmacist for Chadiza district in Zambia's Eastern Province.

The eLMIS, like other technological improvements, was met with initial scepticism by end-users. Faith admits that the health logistics system that automated the supply chain seemed a little complex when she was first oriented to it.

Faith Banda, District Pharmacist Chadiza District, Eastern Province.

Faith Banda, District Pharmacist Chadiza District, Eastern Province. "I'm constantly running reports through the eLMIS Central Edition (CE), even though I wasn't sure I'd be able to interpret the information or make practical use of it in the beginning," notes Faith. "What I enjoy best about the system is how it was made to suit what the Zambian logistics system already was; it simply made it interpret and easier to obtain information."

more efficient and easier to obtain information."

The stock imbalances report is one in eLMIS CE that Faith uses frequently. "I've learned a lot from studying stock imbalances in my area and province. You know, some facilities are located in large catchment areas while others aren't, so the quantities of drugs they'd need would be different, but even that doesn't tell the whole story. There are times when we find drugs that anyone would assume would move quickly at a large facility instead move slowly. I then contact these facilities to find out why said drug is moving slowly to know how that will affect future supply. The one decision I find myself making is product redistribution; I'm able to detect who has a surplus and redistribute accordingly by running stock imbalance reports"

Medical Stores Limited

Stock Imbalance By Facility Report

Zambia

Program: Essential Medicine
Period: Jul 2021
Geographic Zone: Chadiza
Geographic zone. Gradiza

	Supply	ing facility Eastern						
Line #	Facility	Product name	Physical Count	AMC	MOS	Order Status Quantity		
	301001	Chadiza District Hospital Chadiza Eastern						
1		Acetylsalicylic Acid Tablets, 300mg Tablet 300 mg	0	1	0.0	6	Stocked	
2		Amoxycillin (trihydrate), 125mg/5ml Suspension Suspension	0	2	0.0	9	Stocked	
3		Amoxycillin (trihydrate) Capsules, 250mg - 1000 -	0	3	0.0	12	Stocked	
4		Artemether + Lumefantrine, (18) Tablet 120/20mg 3*6 -	0	1	0.0	0	Stocked	
5		Cephalexin Tab/Cap, 250mg Capsule 250 mg	0	3	0.0	9	Stocked	
6		Chromic Catgut Natural absorbable suture 2/0 gauge 1/2	0	3	0.0	9	Stocked	
7		Ciprofloxacin Injection, 2mg/ml, 100ml Solution 2mg/ml mg	0	111	0.0	333	Stocked	
8		Co-trimoxazole 240mg/5ml suspension Suspension	0	30	0.0	135	Stocked	
9		Developer For Auto Processing Conc, 2X5 Litres	0	0	0.0	3	Stocked	
10		Diclofenac Sodium Tablets, 50mg Tablet 50mg mg	0	7	0.0	6	Stocked	

Example stock imbalance report at Chadiza District Hospital for Essential Medicines

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The five-year Electronic Supply Chain Management Information System (eSCMIS) project, funded by the United States Agency for International Development (USAID) and the U.S. President's Emergency Plan for AIDS Relief, is responsible for implementing and managing the eLMIS. Through the USAID eSCMIS project, John Snow Health Zambia Limited (JSH) is transitioning the eLMIS into the next generation in collaboration with the Ministry of Health, Zambia Medicines & Medical Supplies Agency, and other key supply chain partners. JSH is the primary contractor on the USAID eSCMIS project, with subcontractors John Snow, Inc. and Churches Health Association of Zambia. The relationships formed to manage the eLMIS are major reasons it is so well suited to the Zambian health logistics system.

At the start of the system's development, one of the strategic goals was to increase supply chain efficiency. This evolved into improved data culture among supply chain managers, who can now make data-driven decisions with easy access to information on the system. The USAID eSCMIS project provides user-friendly dashboards for analytics and alerts to allow for highly effective decisions.

"Because the district health office where I work is a pre-elimination site, we always have an adequate supply of malaria medications," says Faith. "Using eLMIS CE reports, I'm always able to predict which facilities will want malaria medications before they contact us. An excellent example of a transfer I often make is to Chipata Central Hospital, a referral hospital that serves most of the Eastern province. It uses malaria medication at a quicker pace than we do, so I always transfer our excess there."

Zambia's public health policy environment is favourable to a next-generation eLMIS. The eLMIS CE supports all 2,600 health facilities, more than 1,000 of which are fully computerized and use the eLMIS Facility Edition. In addition, the USAID eSCMIS project continues to roll out eLMIS, with the ultimate goal of having it in place at 1,000 additional facilities across the country.

eLMIS EXPIRY TRACKING: AN ESSENTIAL TOOL FOR PHARMACISTS' NETWORKS



5

Chisenga Mabeti, Pharmacist at Chipata Central Hospital in Chipata district, Eastern Province.

The electronic logistics management information system (eLMIS) expiry tracking tool has assisted product redistribution among pharmacists in Zambia.

"You know that field in the eLMIS Facility Edition (FE) that asks us to enter product batch numbers and expiries when the facility receives products? It has made tracking product expiries easier," says Chisenga Mabeti, a pharmacist from Chipata Central Hospital in Eastern Province. "We frequently depended on physical counts to refresh our memories on product shelf life and which products expired when. Being able to observe these data every day while issuing items allows us to plan redistribution ahead of time."

Chisenga, like many other pharmacists around the country, has been using eLMIS FE tools like expiry tracking to account for stock at her facility and arrange product redistribution in advance.

"We're constantly in contact with other pharmacists via the many provincial and national WhatsApp groups, so we keep each other informed about what product is available for redistribution," says Chisenga. "Just recently, we were able to redistribute a few goods, including atropine sulphate, to the University Teaching Hospital in Lusaka."

eLMIS Facility Edi	ition Ch	nipata Central	Hospital				EM Pharmacy Stor	eroom						🔒 chisenga ma	beti v English v
🕈 Dashboard	Select Product							MIN	ISTRY OF HE	ALTH ZAMBI	A				
Transactions < Filter Products				STOCK CONTROL CARD											
		0052					Product Code		Item Descripti	on		Unit			
	~	Product Code ¢	Product Name \$	General Strength ≎	Pack Size ¢	Dispensing Unit ¢	EM0052		Atropine Sulph	ate, Inj, 0.6mg/mL,	1mL Amp	0.6mg/n	ıl,1ml		
Stock Control Cards		EM0052	Atropine Sulphate, Inj, 0.6mg/mL, 1mL Amp	0.6mg/ml,1ml	100	1 Ampoule	Date	Ref. No	Issued to received from	Quantity received(+)	Quantity Issued (-)	Losses and Adjustment (+/-)	Balance	Remark	Transacted By
Adjustments		IMAG0052	Ultrasound High Viscosity Gel	5Ltrs	1	Pack of 5 litres	09/06/21		Theatre		100		7820	(Michael
							09/03/21		University Teaching Hospital			800	7920		Chichi
Physical Counts		10	✓ Showing page 1 of 1		Prev	1 Next	08/31/21		Physical Count				8720		Neverson
		records per	halle				08/31/21		FOUND			3600	8720		Neverson
Droduct Statue							00/05/01		1000		100		6100		- Araba





Screenshot of atropine sulphate received at the University Teaching Hospital

According to Chisenga, it has become common practice for pharmacists to screenshot stock status reports from the system and post them on the pharmacy WhatsApp groups. "Most times we find ourselves bartering. For example, if my facility has a short-expiry antibiotic in excess and we are running low on test kits, I will post this information in the group and another facility in need of that antibiotic will easily request it. If it or another facility has an excess of test kits or test kits about to expire, it can offer them to us."

Funded by the United States Agency for International Development and the U.S. President's Emergency Plan for AIDS Relief, the eLMIS, Zambia's health logistics system of choice, has evolved steadily since its inception in 2014.

This has included improved supply chain efficiency, data accuracy, and transparency, and more recently, a spike in data use in the supply chain. As a result, the USAID Electronic Supply Chain Management Information System (eSCMIS) project has been mandated to transform the eLMIS into the next generation. This mandate includes the introduction of user-friendly analytics to build a more data-conscious culture and promote data-based decisions that create value in the supply chain. One such enhancement in this transformation is product expiry tracking.

"Tracking product expiries not only works for transfers among facilities we are in communication with," says Chisenga. "Every time we receive a drug from Zambia Medicines & Medical Supplies Agency, we can send it back if we have it in excess or if the drug they sent will not be consumed before it expires."

With readily available data, health products are easily accounted for. As a result, the country is seeing significant reduction of expiries. In addition, these data-based decisions improve supply chain efficiency.

6 Q AND A: SUPPLY CHAIN ELMIS DATA USE

With funding from the United States Agency for International Development (USAID) and the U.S. President's Emergency Plan for AIDS Relief, the USAID Electronic Supply Chain Management Information System (eSCMIS) project is improving information availability for supply chain managers at all levels. The electronic logistics management system (eLMIS) Central Edition's (CE) analytics and Facility Edition's (FE) transaction data have helped end users make decisions that have improved supply chain efficiency.

The USAID eSCMIS project sat down with supply chain managers at various levels to learn how the system has helped them make data-driven decisions.



CENTRAL LEVEL

Please state your full names, occupation, and location. Hello, my name is Nalishebo Siyandi, and I work for the Zambia Medicines and Medical Supplies Agency (ZAMMSA) in Lusaka as the call centre manager.

How long have you been using the eLMIS?

I've been using the eLMIS since it was introduced in 2014; I've basically been there since the beginning.

How exactly do you use the eLMIS?

We continually monitor facility data quality so we can ensure that the reports are of a high standard because this information promotes effective restocking.

Additionally, we keep an eye on reporting rates; we constantly monitor reporting to establish distribution schedules, so we keep an eye on non-reporting sites to ensure they report and are resupplied on time. The eLMIS is effective.

We also examine the system's consumption data on a daily basis, in addition to processing orders and performing quality checks on reports. This information aids us in developing an allocation desk for the entire country. We can allocate products across the country by looking at the information submitted by province. For example, if we haven't had a certain product in the country for six months and then it comes in, we can easily go back to the consumption data from when it stocked out and come up with allocations for redistribution across the country.

What stands out the most for you about how the eLMIS has evolved?

Since its inception, the eLMIS has progressed to the point that it is continuously making it easier to monitor facilities and do data analytics. As a customer service representative, it is critical to anticipate end-user needs, and the eLMIS helps us do that.

Being able to check the proportion of products that have been reported when orders are received has been extremely beneficial to my department. Because when the reports come in, we can look at the percentages of products ordered for specific locations and create trends based on the consumption statistics.

Also, being able to use the reports to determine which facilities in a given region have surplus stock has made it much easier for us to execute emergency requests because we can simply redistribute from one facility to another. Furthermore, looking at the information of facilities that are continuously placing emergency orders helps us determine why a given product is always stocked out and whether it has anything to do with how facilities are ordering.



PROVINCIAL LEVEL

Please state your full names, occupation and location.

Hello, my name is Payne Mungala, and I am a pharmacist at the provincial health office in Livingstone in the Southern Province.

How long have you been using the eLMIS?

I've been using the eLMIS since 2015.

How exactly do you use the eLMIS?

My daily routine has changed since I began using the eLMIS. When I worked at a facility, I used the FE, but now I use the CE to monitor facilities in my province. The most common decisions I make are reporting, which involves ensuring that facilities report on time and accurately. The reporting status data in CE also allows me to follow up with facilities that are having difficulty reporting so that I may offer support and determine how we can best assist them. I don't have to travel from facility to facility in my province to observe what's going on; I can keep an eye on things from my office.

On occasion, we discover that a facility has product stock about to expire or more stock than it can use in a given period of time. We quickly search the system for other facilities that require these products so that we can share them and ensure that they are used on time.

I also find myself looking at consumption data to see how the province is doing in terms of consumption. We also use consumption data for data quality checks; for example, if I compare a report to a facility's stock status, I can assess if it is reporting appropriately based on accurate consumption averages.

What stands out the most for you about how the eLMIS has evolved?

The product batch and expiry tracking functionality in the eLMIS FE is one that jumps out. With this functionality, we can simply tell what batch of items travelled where, and

we can track products not just at a provincial level, but also nationwide. Furthermore, regardless of when you entered the products, the system employs the first expiry, first out mechanism, which immediately identifies which products will expire first and should be transacted out first. This is one of the tools that has helped us reduce wastage due to expirations.



FACILITY LEVEL

Please state your full names, occupation and location. My name is Terrence Shibwela, and I work as a laboratory technician at Mongu District Hospital in Western Province.

How long have you been using the eLMIS? I have been using the eLMIS since I was employed in 2017.

How exactly do you use the eLMIS?

We are definitely on the system daily because we use eLMIS FE for all of our storeroom transactions. In the lab, I'm always looking at our stock status cards to see what items are in short supply. I can easily track product usage by checking stock levels in the storeroom and other locations such as our VCT centre or lab bench.

I'm constantly looking at consumption data; it not only helps us calculate the average monthly consumption, but it also allows us to study trends and forecast how much of a particular product will be needed, as well as which lab commodities are consumed more frequently in different parts of the facility.

What stands out the most for you about how the eLMIS has evolved?

Before, when we submitted reports using eLMIS FE, someone had to go back and update them in CE because we couldn't put in the requested quantities from FE when the system initially started. Because the entire report data is aggregated in FE, this has been a fantastic improvement. Another thing I've noticed is that in the past, the system was quite slow when sending reports since we had to synchronize. However, with the eLMIS FE web edition, it is much faster.

One last point that I can make is that before we updated to eLMIS FE web edition, we couldn't see the status of our reports; we had to log into CE. Now we can see the report status, which includes whether or not it was submitted successfully and if it was approved.

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LUSAKA PROVINCE SPEARHEADING MINISTRY OF HEALTH (MOH) ELMIS TECHNICAL SUPPORT AND SUPERVISION

Zambia's health logistics have been managed using the electronic logistics management information system (eLMIS) since 2014, when the Central Edition (CE) was introduced, followed by the Facility Edition (FE) in 2016. The goal is for the Zambian government to take over management of these systems. Over the years, the projects responsible for the software's implementation have worked to train and empower Ministry of Health staff (MOH) to deploy and manage the system. These initiatives are evident in Lusaka Province, where MOH staff are at the forefront of technical support and supervision.

"It all started with incredibly low reporting rates," says Joseph Miselo, a pharmacist from the Lusaka District Health Office's (DHO) ART Hub."The district pharmacist called and encouraged us to check into the poor reporting rates for the ARV program area." Miselo continued, "Working with the Lusaka district pharmacy coordinator, Kendo Simaimbula, I developed a WhatsApp group called the Lusaka eLMIS Champions, which consists of the majority of pharmacists in the province. From there we began to follow up with facilities on their reporting rates and offer support whenever we can."



Simaimbula Kendo, Helen Lungu, Joseph Miselo, Mulenga Mtutmbo, Pharmacists at Kalingalinga ART Hub in Lusaka district

With funding from the United States Agency for International Development (USAID) and the U.S. President's Emergency Plan for AIDS Relief, through the USAID Electronic Supply Chain Management Information System (eSCMIS) project, the eLMIS is implemented by John Snow Health Zambia, Limited. The eSCMIS project has developed a Transition and Sustainability plan for how eLMIS ownership and management will be transferred to MOH. This includes providing pharmacists like

Joseph and his co-workers with ongoing training and assistance. "We can manage a wide range of system concerns, and facilities can rely on us for assistance. If we run across a problem that is too complicated at this point, we always escalate it to the project's systems implementation and support team" says Joseph.

"We've been slowly recruiting MOH staff to join these teams," says Linda Nyondo Kaposi, Lusaka District Pharmacist. "The first team is at the DHO, and others come from different facilities, especially larger hospitals that have the eLMIS in different parts like the bulk stores and labs. We want to build capacity of these MOH members to supervise and support their facilities."

The Lusaka DHO technical assistance has been effective, as evidenced by the improvement in facility reporting rates and timeliness. As a result, facilities get commodities on schedule, enhancing commodity availability.



"We want to expand our numbers and strengthen our system management skills. Having MOH officials come along when they undertake deployment and migration has definitely helped us improve what we know about eLMIS," notes pharmacist Joseph Miselo. "I am optimistic that many MOH employees will be able to assist their respective districts and provinces in the future."

LOOKING FORWARD

The USAID eSCMIS project has reviewed processes, procedures, learnings, and successes from FY21. The project achieved key deliverables amid significant challenges caused by COVID-19 and changes in Zambian government counterparts causing disruptions and delays. Using innovative technological approaches and management, the project will continue to complete deliverables and adapt to changes in the environment.

In FY22, the USAID eSCMIS project will continue working closely with USAID and adjust the work plan to reflect any changes. The project is still waiting for feedback from USAID on the dramatic change in the exchange rate, which has reduced the project's ability to complete activities with the current funding. Prior to the exchange rate change, the project had earmarked the following activities for FY2022. It is important to note that these activities could change following discussion with USAID about the budget against the new exchange rate.

Objective I: Implement a next-generation eLMIS

- Use agile software development methodology to incorporate agreed enhancements and changes into eLMIS software suite.
- Rapidly deploy eLMIS FE and training to 350 new health facilities.
- Provide strategic TSS to sites with FE and CE users.
- Provide continuous monitoring, evaluation, and learning (MEL) activities and adapt interventions to overcome challenges and maximize opportunities.

Objective 2: Enable GRZ to make data-driven supply chain decisions independently

- Ensure harmonization of different health information systems.
- Transform data into consumable information at all levels of the health system.
- Through IMPACT teams, ensure data are analyzed at all levels of the supply chain, resulting in data-driven decisions and actions.

Objective 3: Continue transition of eLMIS activities' leadership to MOH, and ensure GRZ is able to take ownership of its data and reporting systems

- Update and implement the sustainability and transition plan to enhance the capacity of the GRZ to own and operate the eLMIS.
- Implement key activities from the sustainability and transition plan.
- Continue initiating PPPs between GRZ and private companies to increase financial responsibility.
- Establish external collaboration with other partners and donors, nationally, regionally, and internationally.

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