

USAID | DELIVER PROJECT

Final Country Report

Liberia





USAID | DELIVER PROJECT Final Country Report

Liberia

USAID | DELIVER PROJECT, Task Order 4

The USAID | DELIVER PROJECT, Task Order 4, is funded by the U.S. Agency for International Development (USAID) under contract number GPO-I-00-06-00007-00, order number AID-OAA-TO-10-00064, beginning September 30, 2010. Task Order 4 is implemented by John Snow, Inc., in collaboration with PATH; Crown Agents USA, Inc.; Eastern and Southern African Management Institute; FHI 360; Avenir Health for Development, LLC; LLamasoft, Inc; The Manoff Group, Inc.; Imperial Health Sciences; Asociasion Benefica PRISMA; and VillageReach. The project improves essential health commodity supply chains by strengthening logistics management information systems, streamlining distribution systems, identifying financial resources for procurement and supply chain operation, and enhancing forecasting and procurement planning. The project encourages policymakers and donors to support logistics as a critical factor in the overall success of their healthcare mandates.

USAID | DELIVER PROJECT, Task Order 7

This document was prepared by staff of the USAID | DELIVER PROJECT, Task Order 7, which is funded by the U.S. Agency for International Development (USAID) under contract number GPO-I-00-06-0007-00, order number AID-OAA-TO-11-00012, beginning on March 28, 2011. Task Order 7 is implemented by John Snow, Inc., in collaboration with 3i Infotech, Inc.; Crown Agents USA, Inc.; FHI 360; Foundation for Innovative New Diagnostics; Logenix International, LLC; The Manoff Group, Inc.; MEBS Global Reach, LC; PATH; Imperial Health Sciences; Population Services International; Social Sectors Development Strategies, Inc.; UPS Supply Chain Solutions, Inc.; and VillageReach. Task Order 7 supports USAID's goal of reducing the malaria burden in sub-Saharan Africa by procuring and delivering safe, effective, and high-quality malaria commodities; by providing technical assistance and on-the-ground logistics expertise to strengthen in-country supply systems and build capacity for managing commodities; and by improving the global supply and long-term availability of malaria commodities.

Recommended Citation

USAID | DELIVER PROJECT. 2016. *USAID | DELIVER PROJECT. Final Country Report: Liberia*. Arlington, Va.: USAID | DELIVER PROJECT, Task Orders 4 and 7.

Abstract

This report summarizes the work conducted in Liberia by the USAID | DELIVER PROJECT from 2008–2016. The project provided technical assistance in malaria family planning, and Ebola virus disease by strengthening the health supply chain and improving the environment for commodity security.

Unless otherwise stated, all photos in this document are credited to the USAID | DELIVER PROJECT.

Cover photo: Health worker demonstrates how to hang a bed net.

USAID | DELIVER PROJECT

John Snow, Inc.

1616 Fort Myer Drive, 16th Floor

Arlington, VA 22209 USA

Phone: 703-528-7474

Fax: 703-528-7480

Email: askdeliver@jsi.com

Internet: deliver.jsi.com

TABLE OF CONTENTS

01

Project Overview and Context

Pages 7–12

- † Project Overview
- † Investment in
Commodity Support
and Technical
Assistance
- † Malaria
- † Family Planning
- † Ebola Virus Disease

02

Technical Assistance

Pages 13–26

- † Technical Assistance
Overview
- † Strengthen Logistics
Systems
Performance
- † Increase National
Commitment to
Commodity Security
- † Build Sustainable
Capacity

03

The Way Forward

Pages 27–28

- † The Way Forward

04

Additional Resources

Pages 29–33

- † Acronyms
- † References
- † Further Reading



Project Overview and Context

Project Overview

The USAID | DELIVER PROJECT (the project), in partnership with ministries of health and other organizations, improves health outcomes in developing countries by increasing the availability of health supplies. For more than 30 years, USAID has been a world leader in providing health commodities to field programs—a critical component of health.

Through the USAID | DELIVER PROJECT, USAID invested in Liberia's health programs by supporting the design, implementation, and management of a new supply chain system for health commodities. The project worked closely with the Ministry of Health and Social Welfare (MOHSW), National Malaria Control Program (NMCP), Family Health Division, National Drug Store (NDS), and Supply Chain Management Unit (SCMU).

The project had four main objectives: (1) support the MOHSW and the SCMU when they conducted quantification and supply planning exercises; (2) work with the NDS to improve warehousing and storage; (3) procure malaria and family planning commodities and essential medicines; and (4) operate a modified top-up distribution system of the NDS to deliver commodities to health facilities in five USAID focus counties.

Priority Focus Areas



**Quantification
and supply planning**



Procurement



**Warehouse
and storage**



Distribution

2007



Support door-to-door
LLIN distribution

2008/2009



Develop and disseminate
supply chain SOPs and
LMIS forms

2010



Support the development
of the Supply Chain Master
Plan and costing
implementation plan

2013



Design and roll out Interim
Approach; Embed TA in NDS
(warehouse strengthening)

2014



Continue supply chain
support during Ebola
outbreak

2015



Review and revise supply
chain master plan; Design
and roll out routine LLIN
distribution system

2016



Ebola recovery support
to essential medicines
supply chain

Investment in Commodity Support and Technical Assistance

After two civil wars and nearly 14 years of civil conflict, which ended in 2003, humanitarian assistance groups in Liberia were providing nearly all the health services. With the return to political stability, the Government of Liberia began rebuilding its healthcare system. Health programs transitioned from relief services in the aftermath of the civil war to development-oriented programs to build sustainable systems. These health programs required strong supply chains to provide reliable access to high-quality health commodities.

To support the Government of Liberia's goals, the project collaborated with key stakeholders—including the MOHSW, SCMU, NMCP, and NDS—to fill critical commodity security gaps by providing commodity procurement and technical assistance to support critical functions that span key health program areas, such as family planning and malaria. In 2014, with the onset of the Ebola virus disease (EVD), the project expanded its scope to include storage and distribution support for EVD commodities and essential medicines.

The project provided end-to-end support from the central level to the last mile. Interventions focused on strengthening the performance of the supply chain; in the aftermath of the EVD outbreak, helping the country transition from an emergency to a routine resilient supply chain. Key interventions included—

- ❑ Strategic input and technical assistance to the MOHSW-led initiative to develop a 10-year Supply Chain Master Plan (SCMP), which would be a roadmap and foundation for supply chain improvements.
- ❑ Capacity-building investments at the NDS and SCM unit to ensure sustained improvements in supply chain performance and the overall integrity of the supply chain.
- ❑ Development of a national quantification committee to harmonize and coordinate quantification, procurement, and supply plans.
- ❑ The design and implementation of a top-up distribution system (the Interim Approach) to improve the accountability of deliveries



Malaria

To reduce malaria incidence and mortality, programs and interventions require strong supply chains.

Malaria continues to be a serious health risk for Liberia, contributing significantly to the overall burden of disease in the country. It is the leading cause of outpatient attendance and is the number one cause of inpatient deaths. Forty-one percent of deaths in under-5s are attributed to malaria (NMCP 2009).

Products for prevention, diagnosis, and treatment are needed to reduce malaria-related morbidity and mortality. Malaria programs cannot function without well-designed, well-operated, and well-maintained supply chain systems to manage and move malaria products.

With funding from the President's Malaria Initiative (PMI), the project procured antimalarial commodities—long-lasting insecticide-treated bed nets (LLINs), rapid diagnostic tests, artemisinin-based combination therapies (ACTs), and sulfadoxine pyrimethamine. In addition to procurement, the project bolstered Liberia's public health supply systems to ensure a reliable supply and availability of these commodities.

The Demographic and Health Survey (DHS) data shows that between 2005 and 2013, the percentage of households with at least 1 one LLIN increased from 30 percent to 55 percent (Liberia DHS 2014).



The USAID | DELIVER Project has procured commodities for Liberia to

Protect against malaria with
2.3 million LLINs

Treat 18.2 million
malaria cases with ACTs

Test 10.5 million
suspected malaria cases with RDTs

Prevent malaria in pregnancy with
2.4 million SP tablets

Family Planning

By helping women delay, space, and limit pregnancies, family planning saves the lives of mothers and their children and also saves thousands of dollars in healthcare spending every year.

Despite gains in contraceptive use, 35.7 percent of all women in Liberia currently have an unmet need for family planning. A flexible and robust supply chain makes products available to meet this demand.

To help improve the health supply chain, the project supported the Ministry of Health (MOH) in strengthening key supply chain functions, including quantification; procurement; collection of timely, quality logistics data; contraceptive storage and distribution; and cultivating an enabling environment for contraceptive security. In 2014, for example, the project helped the MOH develop its reproductive health commodity security strategy.

With investments in contraceptive security and supply chain strengthening, contraceptives are now routinely available at all levels of the supply chain. When the modified top-up distribution system was put in place, stockout rates decreased significantly: stockouts for oral contraceptives declined from 87 percent in the first round of distribution in 2013 to 8 percent in the third round of the following year.



The USAID | DELIVER PROJECT shipments provided 3.2 million couple year protection (CYP)

739,600

Unintended pregnancies prevented

26,500

Infant deaths prevented

13,000

Child deaths prevented

3,800

Maternal deaths prevented

Ebola Virus Disease

The project procured and distributed essential medicines to help rebuild the national health system.

In 2014, with the onset of the EVD, the project expanded its scope in Liberia to include forecasting, storage, and distribution support for EVD commodities.

As a member of the logistics cluster technical working group (TWG), which was established during the emergency, the project worked closely with other logistics providers, such as the UN Mission for Ebola Emergency Response and the World Food Program, to harmonize efforts and manage the enormous number of donated medical supplies pouring into the country.



The project became a valuable resource for logistics and supply chain management expertise, as products were brought in to detect and treat cases and to protect health workers. As the country recovered, the project procured and distributed essential medicines to help rebuild the national health system.



Dispatching body bags at ELWA Hospital



Technical Assistance

Technical Assistance Overview

Delivering high-quality healthcare to patients and clients requires health facilities and dispensaries to stock a full supply of medicines and other health products. This necessitates a well-functioning supply chain.

Using best practices and innovative approaches, the project develops and implements robust logistics solutions, fosters supportive commodity security environments, procures and ships health commodities, and partners with local organizations to build sustainable capacity.

In Liberia, these interventions included—

Strengthen Logistics System Performance

- Ensure Commodity Storage Security
- Improve Accountability and Availability of Commodities
- Reform the Supply Chain
- Ensure Continuous Routine Supply of LLINs through Antenatal Care and Institutional Delivery Services.



Increase National Commitment to Commodity Security

- Strengthen National Leadership and Collaboration
- Build Capacity in Commodity Forecasting and Quantification.



Build Sustainable Capacity

- Strengthen Human Resources in Health Logistics.





In the public health setting, an integrated supply chain links everyone involved in managing essential health commodities into one cohesive supply chain management organization, ultimately helping clients access quality healthcare services and supplies.

Improving Accountability and Availability of Commodities

A top-up distribution system increased the availability of commodities by strengthening security and accountability of deliveries.



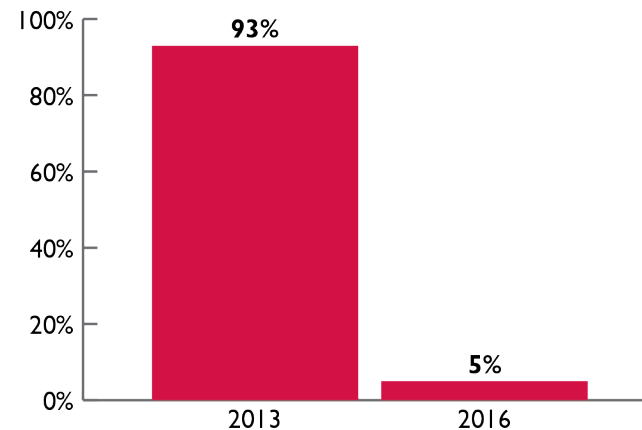
According to several assessments of Liberia's public health supply chains, significant obstacles prevented the proper management of malaria and family planning products and resulted in commodity insecurity. In response, and to ensure accountability to donors, the MOHSW, with technical support from the project, initiated a supply chain solution called the Interim Approach (IA) in 2013.

The IA is based on vendor-managed inventory system principles and uses a top-up distribution system that delivers commodities to facilities on a quarterly basis. Delivery teams determine resupply quantities for commodities during distribution by conducting physical inventory counts at the facilities.

The IA was nationwide, covering 657 facilities in 15 counties. The project implemented the IA in five counties that are home to 70 percent of Liberia's population and the Global Fund for AIDS, Tuberculosis and Malaria (GFATM) covers the remaining 10 counties. The IA will continue until a permanent system is established.

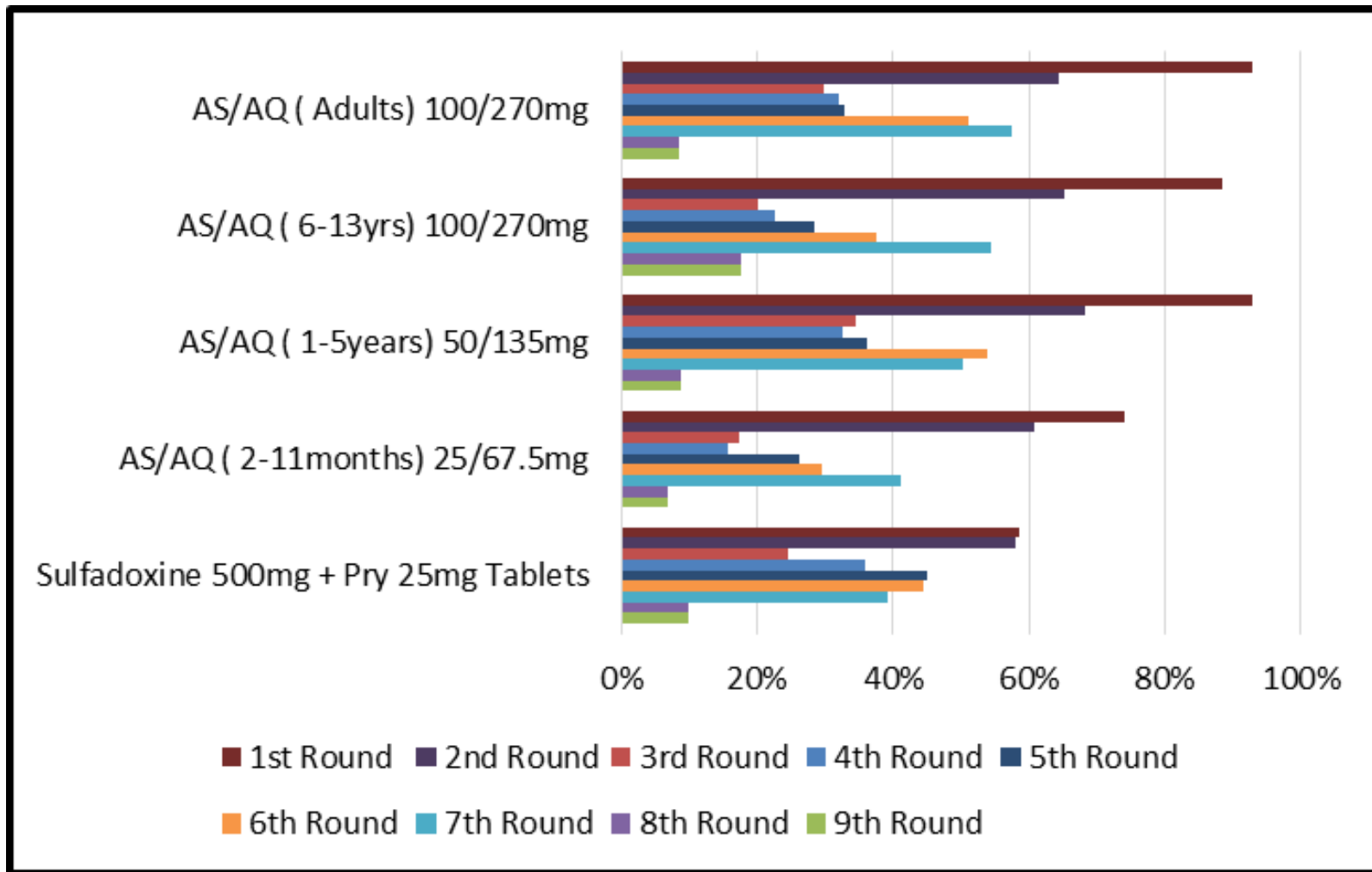
In addition to the data gathered during distribution, the IA captures logistics data, including stock on hand; quantities of commodities consumed; and quantities ordered, issued, and received. With these data, the IA has strengthened the accountability of the distribution system, increased visibility for supply needs, incentivized compliance with standard operating procedures, and informed necessary adjustments for the following round of distribution.

In all USAID-supported counties implementing the IA, stockout rates decreased from as high as **93 percent** in the first distribution round in 2013 to **5 percent** in the ninth round in 2016.



Improving Accountability and Availability of Commodities

Stockout Rates in USAID-Supported Counties Implementing the IA, 2013–2016



Improving Storage Practices

Better warehouse management at the National Drug Stores led to reduced fewer expiry of drugs and more reliable deliveries.



In Liberia, the population relies on the public sector's NDSs for access to medicines and other health supplies. Liberia's protracted civil conflict took its toll on the NDS. In addition, over the past several years, the volume of drugs and medical supplies flowing into the country increased by approximately 50 percent, quickly overwhelming NDS' capacity. NDS constraints included weak and aging infrastructure for storage and distribution, lack of skilled human resources for managing key operations, inadequate distribution planning, poor inventory management, and a weak warehouse management system.

To keep pace with the vast demand for health services in the country, the MOHSW prioritized strengthening NDS with support from development partners, including the USAID | DELIVER PROJECT. In August 2013, the project seconded a warehouse advisor to work with the NDS to raise the standards within the fundamental operations of the supply chain—inventory control, information management, and commodity distribution—to ensure accountable, transparent, and effective management of all drugs and essential health supplies.

To improve storage conditions, the warehouse advisor and the NDS conducted a dejunking and reorganization exercise to remove unusable items and expired drugs and to organize the commodities according to best practices. Since reorganizing the space, expiry of drugs is now less than 2 percent.

To sustain improvements, the advisor provided training and individual supportive supervision to NDS staff. The improvements in day-to-day operations at NDS—stronger inventory control, better management of logistics information, and more effective distribution—have resulted in more reliable deliveries of products to service delivery points.

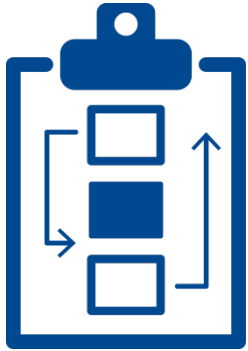
Results of Warehouse Improvements



- Items stored at the NDS for 2+ years were identified as a priority for distribution to programs and health facilities.
- Laboratory items were repackaged to improve organization and reduce the space required for storage.
- Program commodities were counted, packed, and re-arranged in newly identified space.
- Expired items were removed from inventory and secured for disposal.
- Since reorganizing the storage space, expiry of drugs at the NDS was reduced from 7 to less than 2 percent.

Supply Chain Reform

A supply chain master plan provided a road map for building a more robust commodity management system and developing an improved supply chain design.



In collaboration with the Government of Liberia, the USAID | DELIVER PROJECT provided strategic support to the MOHSW to improve supply chain management, focusing on critical gaps and long-term solutions.

In 2010, the project provided strategic input and technical assistance to the MOHSW-led initiative to develop a 10-year Supply Chain Master Plan (SCMP). This plan was the roadmap and foundation for supply chain improvements, and a supply chain management unit (SCMU) was established to oversee its implementation.

In 2015, the project, in collaboration with the MOHSW, conducted an assessment of the IA performance. Because the IA was conceived as an interim solution, the assessment results were used to inform a review of the SCMP. The SCMP had not been fully implemented; leadership commitment was lacking; the plan was under-resourced; and key players in the supply chain did not perform their roles as defined in the plan, which compromised the integrity of the supply chain.

The project used the assessment results to update the SCMP, which now outlines a plan for an integrated, efficient, and effective public health supply chain that makes essential and life-saving commodities available on-time everywhere.

As part of the strategy, the ministry directed that the NDS and all supply chain management and operation be outsourced to a private sector entity for a designated period, with the aim of building capacity for eventual handover to the MOH.



As part of the project's support for supply chain reform, the project developed a supply chain design, including costing, which defines how the supply chain will operate and the resources required. It addresses the—

- ❑ flow of commodities and inventory control
- ❑ distribution requirements
- ❑ business process for resupply
- ❑ roles and responsibilities
- ❑ resources required.

Routine Distribution of Long-Lasting Insecticide-Treated Bed Nets

Distribution of 320,000 LLINs to facilities throughout the country protected pregnant women and mothers with young children against malaria.



In Liberia, malaria remains a major threat to public health, with pregnant women and children under 5 years especially at risk. Although provision of bed nets to pregnant women and mothers of young children was included in various government strategies, it had never been fully implemented.

To increase ownership and use of LLINs for this population, the NMCP, with assistance from the project, developed a plan and budget for LLINs that were designated for routine distribution to all facilities that provide antenatal care (ANC) and institutional delivery services in all 15 counties.

County-level rollout of the plan began in April 2015; teams comprised staff from the NMCP, SCMU, the Family Health Division (FHD), and the project, who conducted training and implemented last mile distribution. The plan covered all aspects of distribution—from the arrival of the LLINs to the storage and distribution at the facility level.

The project oriented county health teams and health facility staff on LLIN management, and on proper recording and reporting procedures. The project also procured containers in counties with limited storage capacity. A total of 320,000 LLINs were distributed to facilities throughout the country.



USAID | DELIVER PROJECT supervisor and DHO from Nimba help transport LLINs during distribution in Gbelgeh district.



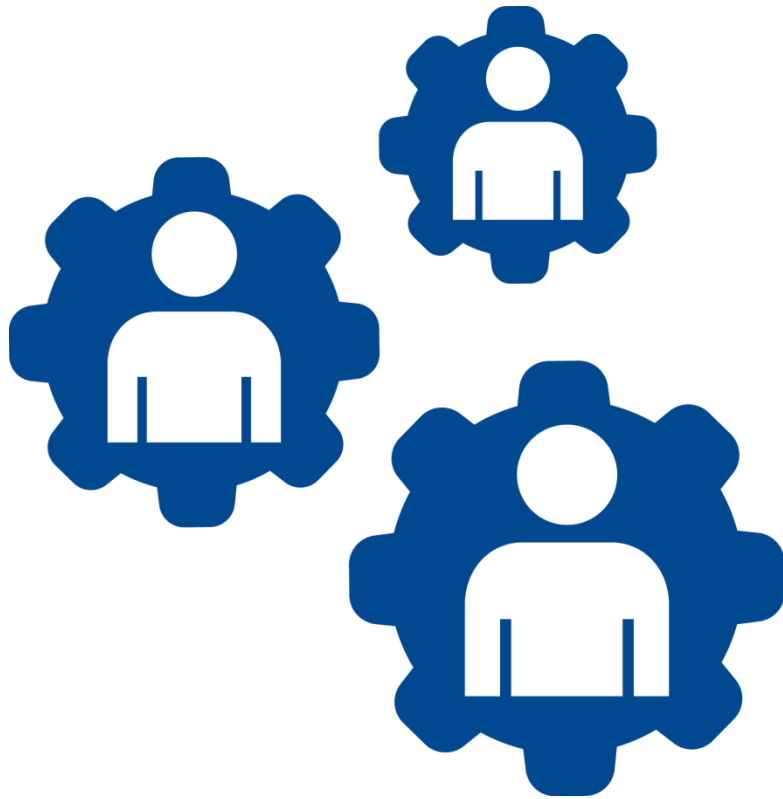
Increase National Commitment to Commodity Security

Commodity security (CS) exists when every person is able to choose, obtain, and use quality contraceptives and other reproductive health products whenever s/he needs them. Strong supply chains alone cannot ensure availability of or access to these commodities.

To help countries create an enabling environment for reproductive health commodity security, the USAID | DELIVER PROJECT, in collaboration with its counterparts, undertakes a variety of policy and advocacy activities at the global, regional, and country levels.

Strengthening National Leadership and Collaboration

An active, multi-sectoral coordination committee has helped key stakeholders maintain a focus on commodity security and long-term product availability issues, strengthen coordination, and reduce duplication and inefficiencies.



CS is achieved when clients can obtain the health supplies they need, when and where they need them. The project has been instrumental in strengthening Liberia's CS status by developing sustainable national capacity and ownership, and by cultivating an enabling environment for CS in Liberia.

The project—with the NMCP, USAID, Clinton Health Access Initiative (CHAI), SCMU, NDS, and Office of Foreign Disaster Assistance—worked to improve multi-sectoral coordination and collaboration. The country established a number of TWGs to support unified strategies and decisionmaking for the supply chain.

At the national level, TWGs include the supply chain technical working group (SCTWG) and commodity security committees for family planning/reproductive health, and malaria. Each county also has its own SCTWG.

The SCTWGs align the efforts of supply chain stakeholders in support of the SCMU priorities and they foster an environment in which stakeholders exchange information on work plans, activities, and implementation; and identify areas of duplication or service gaps.

The TWGs meet regularly—weekly, bi-weekly, and monthly—and they are platforms for partners to confer and address various supply chain issues, including quantification, commodity security, and duplicate orders.

Building Capacity in Commodity Forecasting and Quantification

Establishing a National Quantification Committee and supporting annual national quantification exercises helped ensure commodity availability.



Forecasting commodity needs is a vital logistics systems function. Forecasting provides evidence for mobilizing and securing the financing needed to procure and maintain uninterrupted supplies to meet client needs.

In Liberia, technical coordination of the national quantification has been challenging. To address this, the pharmacy division and SCMU of the MOH—with technical assistance from the project, and support from the NMCP, NDS, and CHAI—initiated a National Quantification Committee to support the objectives outlined in the supply chain master plan. In April 2015, the project helped the MOH develop terms of reference for the committee. A Bill & Melinda Gates Foundation-supported project provided training for committee members.

The project also supported the annual national quantification exercises for malaria, family planning, and essential medicines. Several SCMU staff attended regional quantification training courses, funded by the project, that increased the capacity of the SCMU. To build their forecasting and supply planning skills, SCMU staff co-facilitated annual quantifications.



Build Sustainable Capacity

An essential component of a robust health supply chain is the staff that implements logistics tasks. To run effectively, public health supply chains require motivated, trained, and skilled staff who are competent in the various essential logistics functions and who are empowered to make decisions that positively impact health supplies and supply chains.

The goal of the USAID | DELIVER PROJECT's capacity building activities is to strengthen human resources in public health supply chain systems in the developing world. A focus on developing a superior workforce allows organizations and individual staff to accomplish their customer service goals, ensuring higher performance among public health personnel and, therefore, increased availability of contraceptives and other essential health products.

Strengthening Human Resources in Health Logistics

Supply chain management trainings built the capacity of the health logistics workforce to improve end-to-end visibility of the supply chain.

Without skilled personnel, supply chains cannot function. Since 2009, the project has provided training to the health logistics workforce. The project trained staff from all levels of the health system including—



- ❑ training for the National Quantification Committee, SCMU, NMCP, and FHD
- ❑ training for IA Interim data management
- ❑ basic logistics training for supply chain coordinators
- ❑ data management training for LLIN distribution
- ❑ data collection training for End-Use verification (EUV) data collectors.

Project capacity building focused on interventions that improved end-to-end visibility of the supply chain. The project helped the MOH build the capacity of the SCMU to manage, analyze, and use data generated from the IA to make decisions to improve system performance and product availability.

Through these interventions, human resources in health logistics have improved and the supply chain workforce has the knowledge and capacity to sustain effective supply chain management.

Training





The Way Forward

The Way Forward

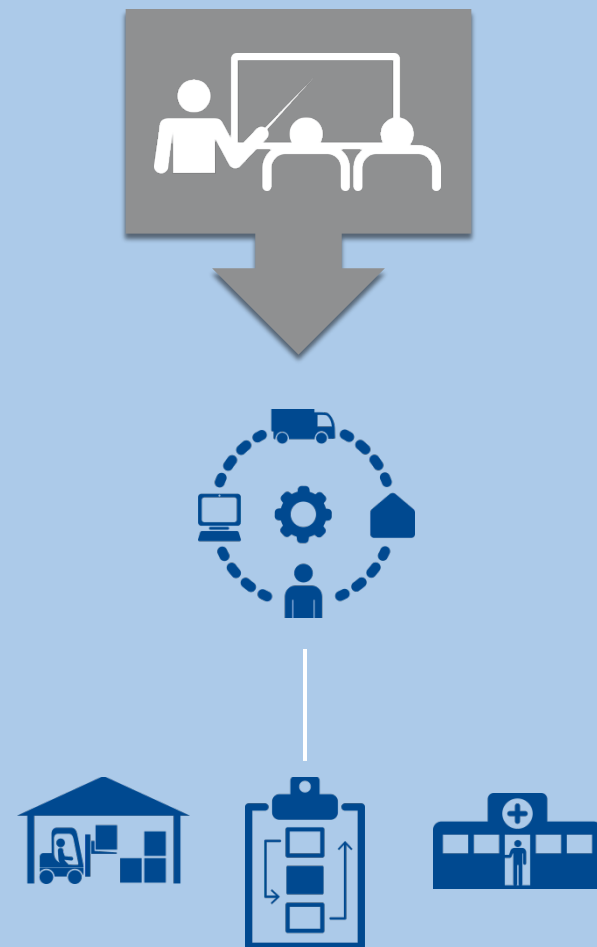
Consolidating Parallel Supply Chains after the EVD Outbreak

The EVD outbreak in Liberia had devastating effects on the public, with high fatality rates from Ebola and non-Ebola infirmities. It also drastically weakened an already fragile public healthcare system, and eroded any gains made in the performance of the supply chain.

While the IA consolidated several supply chain programs, parallel systems remain. During the coming years, the MOH must lead development and implementation of a transition plan that will determine how and when parallel supply chains will be phased out as the new integrated supply chain is put in place.

Transforming the NDS

Despite significant investments in supply chain management from both the GFATM and USAID, weaknesses remain. The IA was conceived as a temporary solution for these shortcomings, but it is critical that Liberia defines and implements a long-term, sustainable approach to ensure that health commodities reach facilities. This will require a new NDS operating and governance model that incorporates a performance-based approach to service delivery.





Additional Resources

Acronyms

ACT	artemisinin-based combination therapies
ANC	antenatal care
CHAI	Clinton Health Access Initiative
CS	contraceptive security
DHS	Demographic and Health Survey
EUV	End-Use verification
EVD	Ebola virus disease
FHD	Family Health Division
IA	Interim Approach
LLIN	long-lasting insecticide-treated bed net
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
NDS	National Drug Store
PMI	President's Malaria Initiative
SCM	supply chain management
SCMP	supply chain master plan
SCMU	supply chain management unit
SCTWG	supply chain technical working group
TWG	technical working group
NMCP	National Malaria Control Program
USAID	U.S. Agency for International Development

References

Liberia Institute of Statistics and Geo-Information Services (LISGIS), Ministry of Health and Social Welfare [Liberia], National AIDS Control Program [Liberia], and ICF International. 2014. *Liberia Demographic and Health Survey 2013*. Monrovia, Liberia: Liberia Institute of Statistics and GeoInformation Services (LISGIS) and ICF International.

National Malaria Control Program (NMCP) [Liberia], Ministry of Health and Social Welfare, Liberia Institute of Statistics and Geo-Information Services (LISGIS), and ICF Macro. 2009. *Liberia Malaria Indicator Survey 2009*. Monrovia, Liberia: NMCP, LISGIS, and ICF Macro.

Further Reading

http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/LB_ImpaBrieSavilmpr.pdf

http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/LR_TranMalaSC.pdf

http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/LR_StreNatiDrugStor.pdf

http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/LR_LLINDistrContrMeas.pdf

http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/LR_TrainHealWork.pdf

http://deliver.jsi.com/dlvr_content/resources/allpubs/countryreports/LR_CSAse.pdf

http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/LR_TrainHealWork.pdf

For more information, please visit deliver.jsi.com.



USAID | DELIVER PROJECT

John Snow, Inc.

1616 Fort Myer Drive, 16th Floor

Arlington, VA 22209 USA

Phone: 703-528-7474

Fax: 703-528-7480

Email: askdeliver@jsi.com

Internet: deliver.jsi.com