

SIAPS NTD End of Project Report

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to Pharmaceuticals and Services

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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ACRONYMS

ADR	adverse drug reaction
ITI	International Trachoma Initiative
JRF	joint reporting form
JRSM	joint request for selected medicines
M&E	monitoring and evaluation
MDA	mass drug administration
MOH	Ministry of Health
MSH	Management Sciences for Health
NTD	neglected tropical disease
NTDD	neglected tropical disease drug
SCM	supply chain management
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
TFGH	Task Force for Global Health
USAID	US Agency for International Development
WHO	World Health Organization

BACKGROUND

Neglected tropical diseases (NTDs) represent a group of diseases that cause significant morbidity and mortality worldwide but until recently have received limited global attention. The US Agency for International Development (USAID) focuses its investments in NTD control on seven of the 30 diseases classified by the World Health Organization (WHO) as neglected. These seven—lymphatic filariasis (elephantiasis); schistosomiasis (bilharzia, snail fever); trachoma (eye infection); onchocerciasis (river blindness); and three soil-transmitted helminthiasis (hookworm, round worm, and whipworm)—account for 80% of the global NTD burden. Africa accounts for 90% of the NTD disease burden, with the majority of people infected with two or more NTDs. These most common NTDs can be treated and controlled with preventive chemotherapy, largely donated by philanthropic pharmaceutical companies, which involves the use of mass drug administration (MDA).

Access to such medicines, however, is not always a smooth process due to weaknesses in supply chain management (SCM) and logistics information systems. Challenges with timely distribution, proper storage, handling, recording, and reporting of medicines can lead to less than optimal operation of the logistics system. Supply chain constraints also affect NTD prevention and treatment programs. Inadequate NTD drug (NTDD) management in many countries has resulted in excess stock, leading to wastage from drug expiry and stock-outs and causing treatment interruptions affecting the NTD problem globally. Several partners and initiatives are contributing to the control and elimination of NTDs at the global level. However, coordination among partners in the area of NTD pharmaceutical management is weak.

Key to the success of NTD programs is their ability to secure an uninterrupted supply of quality NTDDs for at-risk population. In many countries, quantification of required products is not conducted in a coordinated, evidence-based manner. This has negatively affected inventory stock in these countries. NTD programs in many countries are vertical and lack an integrated approach to medicine supply management. NTDD management in many countries is done by individual NTD program managers and is not harmonized with the national drug supply system. Accurate and timely consumption, stock status, expiry, and adverse drug reaction (ADR) data are not always available.

Following an earmark created by the US Congress in 2006 for NTD control, the global profile of and support to NTD programs has risen dramatically. New commitments from partners are closing the funding gaps and expediting progress toward the 2020 goal of control and/or elimination of selected NTDs. The global pharmaceutical manufacturers' partnership for quality medical donations program has pledged to donate an average of 1.4 billion treatments each year until 2020.

Between 2006 and 2016, 2 billion treatments were delivered, 936 million people were reached, USD 15.7 billion in medicines was donated, 25 country programs made progress toward disease control and elimination, and 478,000 community drug distributors were trained each year, according to a USAID Factsheet entitled "Working to Protect against Neglected Tropical Diseases, November 2016".

Working to Protect against Neglected Tropical Diseases

Several partners and initiatives contribute to the control and elimination of NTDs at the global level. However, deficiencies in the capacity of NTD programs to manage the donation, storage, and distribution of NTDDs for MDA still remain. Working in tandem with partners, stakeholders, and NTD programs in priority countries, the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program provided the required coordination and technical expertise to advance the NTD control agenda and address issues and concerns of global initiatives as they relate to NTDDs.

To help address these pharmaceutical management and supply chain gaps in a more sustainable manner, USAID provided USD 1,350,000 to SIAPS to provide technical assistance to strengthen pharmaceutical and SCM systems to support USAID NTD priorities.

SIAPS NTD PROGRAM GOALS

The main goal of SIAPS' NTD work was to apply best practices from decades of experience with strengthening pharmaceutical management systems to achieve global NTD goals. SIAPS provided technical input to stakeholders, including USAID; WHO; the Task Force for Global Health (TFGH), which houses major donation programs (Mectizan Donation, International Trachoma Initiative (ITI), and Children without Worms); the Global Network for Neglected Tropical Diseases Control; and national NTD programs. Technical assistance addressed technical leadership issues related to NTD donations, medicine regulation, SCM, serious adverse event reporting, and patient safety.

SIAPS worked in concert with all NTD stakeholders at the global, regional, and county levels to maximize use of what is already known and available in terms of tools and materials, the application of proven best practices, leveraging resources with partners, building on and capacitating local existing structures and systems, and sharing knowledge and experiences as they are acquired.

Through its NTD program, SIAPS enhanced NTD program managers' capacity for SCM for improved storage and transportation, rational medicine use, medicine forecasting, and adverse event reporting to ensure NTD commodity security and safety.

Program Objectives

The objectives of SIAPS were to:

- 1) Provide technical leadership for NTD commodity management and support coordination of activities at the global level
- 2) Develop and disseminate relevant tools and procedures to support national NTD programs in making informed decisions at all levels
- 3) Strengthen the capacity of national drug regulatory authorities to ensure the quality of NTD medicines and patient safety
- 4) Strengthen the capacity of national NTD supply chain systems in target countries to ensure continuous availability and appropriate use of NTD products
- 5) Strengthen the capacity of national, regional, district, and service provision level staff in NTD pharmaceutical management

KEY SIAPS ACTIVITIES

Key Activity	Participating Countries/Description	Date	Number of participants
Senegal assessment and dissemination	Senegal	2015	23
Ethiopia regional workshop	Ethiopia, Tanzania, and Uganda	2015	40
Ghana regional workshop	Ghana, Sierra Leone, and Nigeria	2016	31
Benin regional workshop	Benin, Côte d'Ivoire, and Burkina Faso	2015	25
Guinea regional workshop	Guinea, Senegal, Niger, and Mali	2015	37
Nigeria workshop	Nigeria	2016	95
NTD SCM training module	Training material used in WS	2013–2016	
NTD management guide and SOP	Draft comprehensive guide and SOP		
NTDD waste management	Draft guide for NTDD waste management		
Ethiopia zithromax SCM assessment and dissemination	Comprehensive assessment conducted by SIAPS for ITI	2014	40

SIAPS Central-level Participation and Membership in NTD Task Forces and Networks

The SIAPS/NTD portfolio was responsible for representing the planning, implementation, and communication of the project's NTD activities. SIAPS held regular consultative and information sharing meetings with the USAID/NTD program to discuss work plan implementation, challenges, guidance, and coordination for engagement of USAID/NTD partners. This type of joint meeting and the topics discussed is illustrated in figure 1.

Beginning in October 2013, SIAPS participated in and presented abstracts at selected meetings, groups, and conferences contributing to the work of NTD advisory and technical working groups, especially supply chain, serious adverse events/ADR reporting, and monitoring and evaluation (M&E) working groups. Participation at these meetings promoted proper supply chain and pharmacovigilance coordination with the USAID/NTD program and the TFGH. Meetings included the American Society for Tropical Medicine and Hygiene Annual Meeting, the WHO Global NTDD Efficacy Working Group, and the WHO Global NTD M&E Working Group. After attending six international and numerous key stakeholder meetings, SIAPS earned a presence within the NTD community, and its efforts raised awareness of pharmaceutical management issues within the NTD community and working groups.

SIAPS participated in and presented an update at the NTD-Supply Chain Forum. Dr. Greg Simon, SIAPS NTD project lead, interacted with participants to highlight issues related to improving supply chain management and ADR reporting. He participated in discussions about NTD supply planning and management and stressed the importance of accurate medicine use and medicine quality.

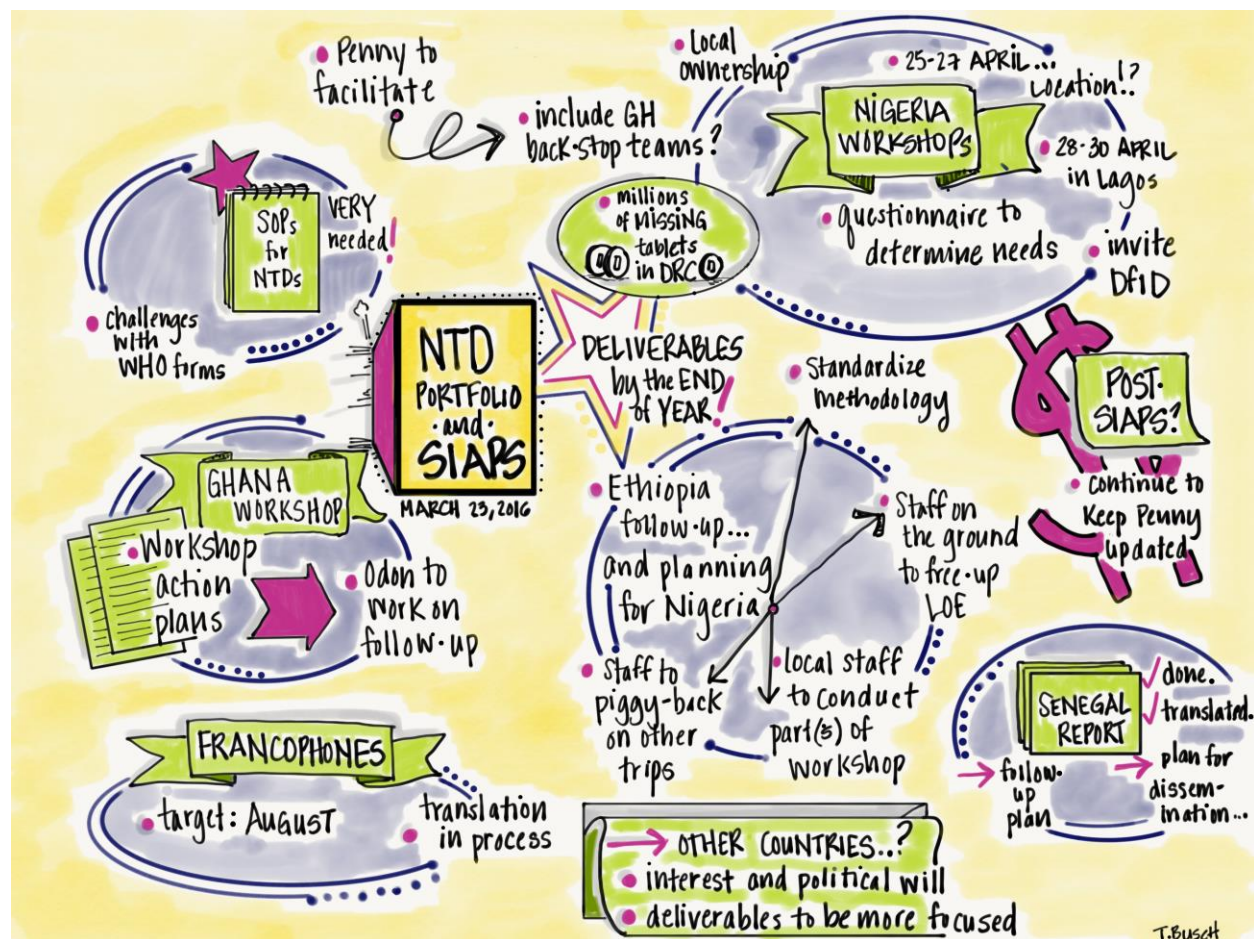


Figure 1. Graphic illustration of a joint meeting

SIAPS NTD Supply Chain Assessments

SIAPS also provided technical assistance to conduct a zithromax SCM assessment for trachoma in Ethiopia as part of a collaborative effort. This assistance helped identify challenges and promote lessons learned and contributed to the planning and engagement of Ethiopia's Ministry of Health (MOH) to host the first in a series of NTD SCM workshops.

Senegal NTD Supply Chain Assessments

USAID requested that SIAPS conduct an NTD SCM assessment in Senegal to identify challenges in NTDD management and work with RTI International/Senegal and the MOH to improve SCM and rational NTDD use.

The assessment identified both strengths and weaknesses and proposed recommendations in the areas of policy and regulations, coordination and staffing, procurement, storage, distribution, rational NTDD use, reverse logistics, reporting, quality assurance, and waste management.

Zithromax Supply Chain Assessments in Ethiopia

The ITI engaged Management Sciences for Health (MSH) to conduct a rapid assessment of zithromax logistics management in Ethiopia, including capacity and readiness for the anticipated scale-up of zithromax treatment from 15 million treatments to approximately 45 million in 2014. ITI signed a memorandum of understanding with the Ethiopian Federal Ministry of Health to manage Pfizer-donated zithromax in the treatment of trachoma.

Although this assessment was not funded by USAID, MSH's response to the request was part of the overall strengthening of NTDD management and was a good opportunity to organize a regional NTDD management workshop. The lessons learned from the assessment were used to provide findings, observations, and recommendations in improved NTDD management.

The objective of this assessment was to determine supply chain and logistics management capabilities and challenges of the Federal Ministry of Health; the Pharmaceutical Funding and Supply Agency; regional health bureaus; districts; and implementing partners of the Amhara, Oromia, and Tigray regions and the Southern Nations, Nationalities and Peoples Region to effectively manage the projected scale-up of the zithromax donation to Ethiopia to eliminate blinding trachoma as a public health problem by 2020. The assessment was in the form of a questionnaire with responses from stakeholders in four regions, 11 districts, and nine kebeles and from six partner organizations and the Pharmaceutical Funding and Supply Agency. The assessment covered areas related to customs clearance at ports of entry as well as in-country storage; transportation; inventory management and control; any diversion of donated zithromax to the commercial sector; and reverse logistics practices at the central, regional, district, and community levels. Following the assessment, a report dissemination workshop was attended by 40 participants from the MOH, nongovernmental organizations, partners, and USAID.



Participants at the report dissemination workshop in Ethiopia

NTD Supply Chain Management Capacity Building Workshops

With the gradual scaling up of integrated NTD MDA programs, there was an urgent need to build managerial capacity throughout the supply chain of donated medicines, from national-level managers to volunteer community health worker. This increased capacity will create a critical mass of expertise that will be routinely available to sustain preventive chemotherapy programs for the long term.

SIAPS conducted five comprehensive national health manager workshops for SCM for national MDA against neglected tropical diseases for participants from 13 countries:

- Ethiopia (40 participants from Ethiopia, Tanzania, and Uganda),
- Ghana (31 participants from Ghana, Sierra Leone, and Nigeria),
- Nigeria (95 participants from all 35 states)
- Benin (25 participants from Benin, Cameroon, and Burkina Faso)
- Guinea (37 participants from Guinea, Senegal, Niger, and Mali)

In planning the workshops, SIAPS interviewed representatives from stakeholder organizations, including the TFGH, WHO, RTI International, and FHI 360, to learn about the problems that hinder effective SCM for NTDs.

SIAPS also drafted a training manual to be used for the workshop. The manual and training workshop toolkit addressed receipt, issue, return of unused products, tracking expiries, consumption, stock levels, shipment status, and reporting adverse drug effects of NTD products.

Each session outlined the issues and decisions that needed to be addressed as part of country-specific supply chain system development to:

- Provide an understanding of the components of effective management of medicine commodities needed for MDA on NTDs
- Describe how to develop NTD supply chain systems that are in compliance with WHO standards
- Ensure that best practices and lessons learned from the field are used to inform and guide the design and planning of future MDAs
- Identify future NTD pharmaceutical system strengthening priorities, activities, and challenges based on participant experiences

The workshops:

- Equipped national-level pharmaceutical managers and NTD program managers with up-to-date knowledge of pharmaceutical supply management and rational NTDD use, leading to reduced waste

- Built the capacity of pharmaceutical managers and NTD program managers to provide training for, supervise, and implement NTD activities
- Used group activities to troubleshoot issues that may arise in the supply chain prior to and after MDA
- Advocated for the integration of NTDs into national medicine supply chain mechanisms whenever possible
- Established a comprehensive understanding of the roles and responsibilities of national-level pharmaceutical managers and NTD program managers related to NTD pharmaceutical management

These workshops gathered national NTD and pharmaceutical supply and regulatory officers from several endemic countries to introduce current supply chain topics, share experiences, and develop common approaches for effective and robust delivery mechanisms to increase the efficacy of the programs to gain maximum results with a minimum of cost-effective inputs.

Ethiopia NTD Supply Chain Management Workshop

To address the lack of capacity in NTD pharmaceutical management, SIAPS developed a three-day SCM workshop directed at national-level supply chain and NTD program managers. The workshop was piloted in Addis Ababa for representatives from central medical stores and NTD programs in Ethiopia, the MOH, WHO, and RTI International to discuss efficient SCM of NTDDs and highlight the importance of technical support, cross-fertilization, sharing of lessons learned, and providing solutions to critical challenges faced.



Small group discussions at the NTD regional workshop in Ethiopia

Ghana NTD Supply Chain Management Workshop

Thirty-one participants from Ghana, Sierra Leone, and Nigeria attended a four-day regional workshop in Accra, Ghana. The workshop included group work to explore case studies and discuss ways to improve participants' programs. Prior to the workshop, participants completed a questionnaire to determine what aspects of SCM to focus on. By adopting the workshop training

course, national and district program managers were able to demonstrate improved understanding of SCM skills, use NTDDs more efficiently, and better manage NTDD tracking. The workshop helped strengthen participants' skills and knowledge on how to quantify and request NTDDs from the WHO donation program, how to properly store and distribute the medications prior to MDA, and the proper use of medications during and after MDA. This will decrease the amount of medications left over in local store houses and improve the quality of treatment programs.



Participants at the NTD regional workshop in Freetown, Sierra Leone

Nigeria NTD Supply Chain Management Workshop

SIAPS held two three-day national-level SCM training workshops on NTDDs for 95 SCM and NTD focal persons from Nigeria; the first took place in Abuja April 25–27 and the second in Lagos April 28–30, 2016. The workshops had the following objectives:

- Equip national and state-level pharmaceutical managers and NTD program managers with updated knowledge of pharmaceutical supply management and rational use of NTDDs
- Build the training, supervision, and implementation capacity of national-level pharmaceutical managers and NTD program managers related to NTDDs
- Use group activities to troubleshoot potential issues that may arise at various point of the supply chain prior to and after MDA
- Advocate for the integration of NTDDs into national medicine supply chain mechanisms whenever possible
- Establish a comprehensive understanding of the roles and responsibilities of national-level pharmaceutical managers and NTD program managers to make the most efficient use of their time

As part of the workshop, SIAPS shared experiences and best practices in SCM from its global work in pharmaceutical management systems, previous workshops, and NTD country assessments. Prior to the workshop, participants completed a questionnaire to determine what aspects of SCM to focus on. By adopting the workshop training course, national and state program managers were able to demonstrate improved understanding of SCM skills, manage NTDDs more efficiently, and better manage NTDD tracking. In collaboration with partners and SIAPS staff, participants worked together to develop comprehensive, state-specific action plans to improve SCM of NTDDs in Nigeria. The workshop helped strengthen participants' skills and knowledge on how to quantify and request NTDDs from the WHO donation program, how to properly store and distribute the medications prior to MDA, and the proper use of medications during and after MDA. The workshop included group work to explore case studies and discuss ways to improve programs.



Participants at the workshops in Abuja and Lagos, Nigeria

Benin and Guinea NTD Supply Chain Management Workshops

SIAPS expanded its efforts to improve SCM of NTDDs in francophone countries. The training material developed in English was customized for West African French-speaking countries. Two five-day regional SCM training workshops in Conakry, Guinea, and Cotonou, Benin, were conducted in August and September 2016 for 62 managers and senior staff responsible for SCM of NTDDs from eight francophone countries. After the workshops, the expected deliverables and other products were developed, reviewed, and submitted to USAID. These training workshops helped participant countries develop realistic action plans for the improvement of the SCM of NTDDs.

The Guinea workshop was attended by 37 participants from Burkina Faso, Cameroon, Guinea, Mali, and Senegal and included representatives from technical and financial partner organizations such as WHO (Guinea and West Africa Inter-Country Support Team); Hellen Keller International (Burkina, Cameroon, Guinea, Mali); RTI International Senegal; Catholic Relief Services Guinea; and Sightsavers Guinea.

The Benin workshop was attended by 25 participants from Benin, Côte d'Ivoire, and Niger and included representatives from two technical and financial partner organizations: Hellen Keller International, Niger, and RTI International, Benin. One participant from Cameroon who could not attend the Guinea workshop due to travel logistics issue attended the Benin workshop.

The objective of the two francophone workshops was to strengthen participants' skills and knowledge on how to quantify and request NTDDs from the WHO donation program, properly store and distribute the medications prior to MDAs, and properly use these medications during and after MDA. The workshop learning approach was interactive and included group work so that participants could explore case studies and identify ways to improve their programs.

The workshops were organized into 11 sessions to cover the main components of NTD SCM, including planning for MDA, roles and responsibilities, quantification (completing the WHO joint request for selected medicines (JRSM) form), reporting and information management (completing the WHO joint reporting form (JRF), distribution, appropriate medicine use, pharmacovigilance, disposal of unused medicines, and waste management.

Each workshop session included specific learning objectives describing the skills that participants would gain, lectures and discussions on individual topics, and group work to solve problems related to the discussion topics.

The workshop objectives and participants expectations were achieved, and the main workshop outputs are summarized as follows:

- Most participants were exposed for the first time to SCM principles for NTD commodities and appreciated the participatory learning approach adopted by workshop facilitators.
- Participants reaffirmed their understanding of the goal of NTD commodity management, which is to ensure 100% treatment of the target population as planned with quality-assured NTDDs.
- All participants indicated better familiarity with the WHO NTD commodities forms (JRF and JRSM).
- WHO representatives from Burkina Faso (West Africa Inter-Country Support Team) made a commitment to assist countries in improving the submission process of the JRF and JRSM.

- WHO representatives agreed with participants' recommendation to improve the JRF and JRSM, and new versions of these forms will be produced that will include data on adults at risk of schistosomiasis infection.
- WHO representatives committed to work with the ITI to include trachoma data on the forms.
- Participants committed to developing a functional network supported by a mailing list to share best practices for improving both MDA and NTDD management.
- Country representatives committed to developing (Cameroon and Guinea) and finalizing (Burkina Faso, Mali, and Senegal) their action plans to improve the management of NTDDs. These plans will be included into NTD program national strategic plans and NTD program national work plans.
- Country representatives indicated a willingness to adopt key indicators to measure improvements in management of NTD commodities after the training workshop.
- Participants were informed about new guidance from the manufacturer of zithromax that allowed the use of empty zithromax containers to alleviate reverse supply chain challenges related to incineration.

Manuals and SOPs for Supply Chain Management for Health Managers of NTDDs

To sustain NTDD management systems and provide skills and tools, SIAPS worked with host-country programs, the TFGH, WHO, and other stakeholders to develop manuals and standard operating procedures used during the training workshops that provided information on receipt, issue, return of unused products, tracking expiries, consumption, stock levels, shipment status, and reporting adverse drug effects. The SIAPS approach aimed to integrate, wherever possible, data collection, processing, and reporting across programs to help reduce staff burden for these tasks. The proper disposal of expired or damaged (questionable quality) drugs was described as a problem by many donation programs, and the set of SIAPS-developed tools included a draft waste management manual.

Drug Management Training Module for the WHO-led NTD Program Management Manual

SIAPS collaborated with RTI International to develop the initial module for the National NTD Program Managers training course and provided technical assistance to RTI and WHO to develop an NTDD supply management training manual.

The objectives of this manual included:

- Helping donation programs and implementing partners improve supply chain and inventory management practices, with a focus on NTDDs and related supplies

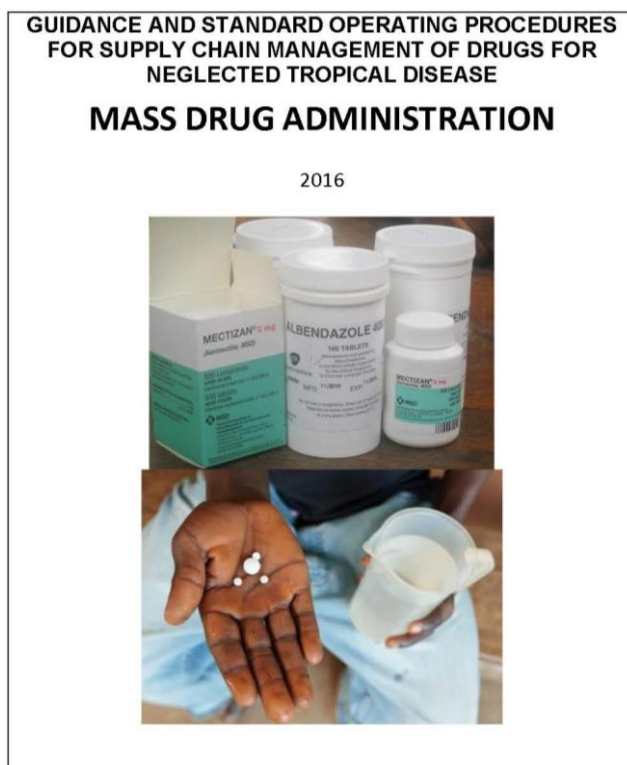
- Supporting the institutionalization of standard operating procedures in the management of NTD products
- Improving NTD program records management at storage centers and data reporting
- Improving accountability and promoting institutional memory through documentation of pharmaceutical management activities that routinely take place throughout the supply chain
- Improving accountability systems related to medicine management, storage, and distribution
- Providing a list of best practices for SCM of NTDDs for MDA

Managing Pharmaceutical Systems Used in the Treatment of NTDs: Guidelines and SOPs

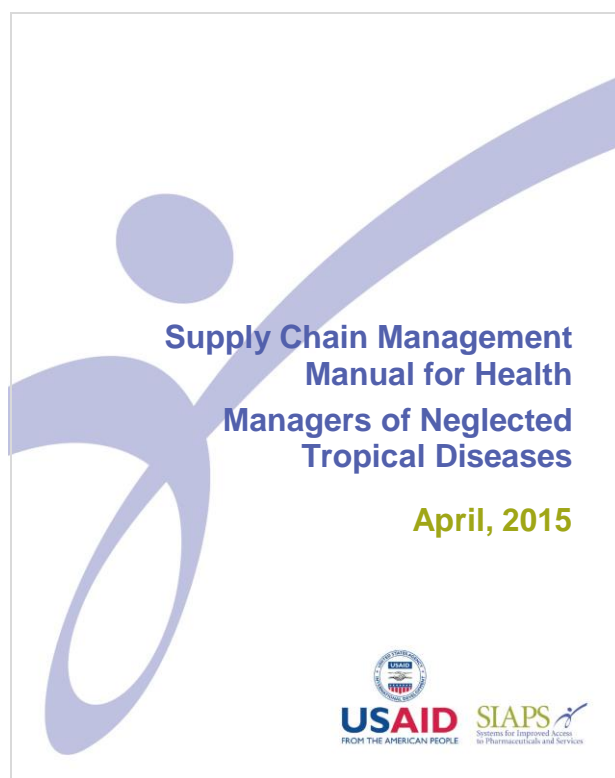
SIAPS developed guidelines and SOPs for NTDD managers, service providers, community health workers, community drug distributors, teachers, technical assistance providers, and public- and private-sector partners. The documents provided information on how to properly manage NTDD supplies throughout the supply chain and distribution process and can serve as references that NTD programs can use to review and enhance their own procedures for managing NTDDs and develop or refine their own SOPs to support the proper implementation of the supply chain components of MDA. These guidelines and SOPs are based on the assumption that countries already have the systems, structures, and processes in place to implement MDA for NTDs.

NTDD Waste Management Manual

This guide addressed returning expired questionable quality NTDDs to central medical stores for appropriate documentation and disposal, disposal or proper cleaning of used NTDD bottles, disposal of diagnostics and other supplies used during MDA, and M&E and surveillance activities. SIAPS worked with the TFGH, WHO, and national MOHs to develop guidelines for different levels of the supply chain. By adhering to the guidelines, national and district program managers can demonstrate improved drug quality and distribution management. This will lead to fewer poor quality drugs left in local storehouses, proper disposal of all materials used in NTD control and elimination efforts, and proper recycling of medication bottles following MDA.



Mectizan tablets ready to administer to a patient



The supply chain management manual

CHALLENGES

The supply chain and logistics information system aspects are largely connected to central medical stores within countries. In some cases, NTDD distribution is managed by the central medical stores, which also distribute essential medicines. However, it is difficult to respond to time-sensitive MDA requirements if NTDDs are distributed on the same schedule as other essential medicines.

Storage conditions at various levels, including district stores and health facilities, often do not meet medicine and supply storage standards, meaning that the stability and safety of drugs can be compromised. At the same time, undistributed or unused medicines are not returned to the central medical stores or are not redistributed to other areas in the country where there could be a shortage.

RECOMMENDATIONS

- When integrating NTD programs with pharmaceutical management systems, key activities are typically related to MDA. However, MDAs should be planned and conducted with appropriate safety, effectiveness, and logistics concerns. Some drugs may interact with one another or increase the potential for ADRs. The target population of the MDA may not be homogeneous and may affect the effective use of community distributors. If MDA is warranted, proper education and awareness must be in place.
- To ensure that those infected with NTDs who need preventive chemotherapy have access to treatment, robust drug management and supply chains are required to ensure that high quality NTDDs are available when and where they are needed. Efficient and cost-effective donation management and MDA efforts call for a specific set of pharmaceutical management interventions known as SCM.
- It is important to note that the NTD pharmaceutical supply system should not be a completely separate supply system. Since NTDDs are essential to public health care in most developing countries, they should be integrated into the national pharmaceutical supply system to avoid duplication while still respecting the special demands of the program as dictated by the unique nature and approach of NTDD procurement, distribution, and delivery.
- As a result of common overlap and similarities in treatment strategies, many NTD programs—including trachoma, lymphatic filariasis, onchocerciasis, schistosomiasis, and soil-transmitted helminthiasis—are integrating program components in an effort to increase cost efficiency, accelerate program scale-up, and improve program request for resources.
- NTD programs to collaborate with national drug regulatory authorities in USAID-supported countries to build their capacity for SCM and improve adverse event management and reporting.
- Develop, test, and disseminate training and operational manuals, including information management tools, at the global and country levels to collate and provide timely information on stock status, pipelines, and delivery of NTDDs at all levels.

LESSONS LEARNED

The lessons learned from these activities are aimed at informing future activities and addressing the challenges in NTDD management and integration into the national drug supply management system.

Building an integrated NTD pharmaceutical supply chain and rational use approach will require strengthening the capacity of the pharmaceutical supply sector to ensure better understanding of the unique demands of NTD programs so that the central medical store system can comprehensively manage NTD products and respond effectively to NTD program needs.

Full integration can be achieved by more active engagement of the national supply chain pharmaceutical sector in the management of NTD products to enhance efficient use of resources, bring professional expertise to the forefront, and add value to the global and national NTD effort. This win-win situation can give NTD program management the time and energy to focus on core NTD programmatic matters, leaving the supply chain task to the pharmaceutical service unit where such expertise resides.

RESOURCES

Daniel G, Kafumbe N. 2014. *Rapid Assessment of Zithromax® Management for Trachoma Treatment in Ethiopia: Final Report, March 2014*. Submitted to the International Trachoma Initiative by Center for Pharmaceutical Management Program. Arlington, VA: Management Sciences for Health.

Simon G, Daniel G, Diop K. 2015. *Assessment of the Neglected Tropical Diseases Pharmaceutical Management System in Senegal*. Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health.

SIAPS, 2016. Technical Report on Outcomes of the Supply Chain Management Workshop for Neglected Tropical Diseases Health Managers held in Accra, Ghana from February 23rd - February 26th, 2016. Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health.