USAID | DELIVER PROJECT

Nigeria: Tuberculosis Warehousing Assessment

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USAID | DELIVER PROJECT, Task Order 1
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Abstract
In January 2009, the National Tuberculosis and Leprosy Control Programme of the Federal Ministry of Health in Nigeria, with technical assistance from the USAID | DELIVER PROJECT, Task Order 1, conducted an assessment of the physical status and operational capacity of the Central Medical Stores Tuberculosis and Leprosy (TBL) unit store, six zonal TBL warehouses, and three state TBL stores.

The assessment's overall objective was to determine the current situation for the national storage systems for tuberculosis (TB) drugs. This report presents the findings from the assessment and identifies the short-, medium-, and long-range requirements necessary to ensure that good warehousing practices are in place and maintained within the warehousing system of TB drugs in Nigeria.

Cover photo note: Well-constructed storage facilities. USAID | DELIVER PROJECT, 2009.

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Contents

Acronyms

CHAN	Christian Health Association of Nigeria
CIDA	Canadian International Development Agency
CMS	Central Medical Stores
DOTS	directly observed treatment short-course
EPI	Expanded Programme on Immunization
FCT	Federal Capital Territory
FEFO	first-to-expire, first-out
FDS	Food and Drugs Services
FMOH	Federal Ministry of Health
GFTAM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GLRA	German Leprosy and Tuberculosis Relief Association
GWP	good warehouse practices
HIV	human immunodeficiency virus
HOD	Head of Department
HQ	headquarters
LGA	local government area
LIAT	Logistics Indicator Assessment Tool
LMIS	logistics management information system
LSAT	Logistics System Assessment Tool
M&E	monitoring and evaluation
MDR TB	multidrug-resistant tuberculosis
NGO	nongovernmental organization
NTBLCP	National Tuberculosis and Leprosy Control Program
POD	proof of delivery
SMOH	State Ministry of Health
SOP	standard operating procedure
SOW	statement of work
STBLCP	State Tuberculosis and Leprosy Control Program
STTA	short-term technical assistance

TB	tuberculosis
TBCAP	Tuberculosis Control Assistance Program
TBCTA	Tuberculosis Coalition for Technical Assistance
TBL	tuberculosis and leprosy
USAID	U.S Agency for International Development
WHO	World Health Organization
WMS	warehouse management system

Acknowledgments

The authors of this document wish to acknowledge the support of this assessment by the government of Nigeria, the U.S. Agency for International Development (USAID), and the Federal Ministry of Health (FMOH), especially staff in the department of public health, the management and staff of the National Tuberculosis and Leprosy Control Program (NTBLCP).

Many people in these organizations deserve special thanks, including Dr. Ngozi Njepoume–Head of Division TB/HIV FMOH, Dr Kabiru Mansur–National Coordinator NTBLCP, Dr S.A. Aboje–Deputy Director NTBLCP, Mr. Bravo Otohabru–Head of Logistics NTBLCP, and Mr. Abu Ugbede and Ms. Elina Sverdlova of USAID/Nigeria. Their enormous support has contributed to making this assessment a success.

We would also like to thank all of the organizations and individuals in Nigeria who provided insights into the operations of tuberculosis (TB) warehousing facilities around the country at the central, zonal, and state levels, through interviews or participation in assessment activities. Much of the findings and analysis in this report are based on those inputs.

We are grateful to NTBLCP, the Christian Health Association of Nigeria (CHAN), and the Tuberculosis Control Assistance Program (TBCAP) for providing staff for the assessment. We sincerely appreciate the State TB coordinators for warmly receiving the assessment teams and for their cooperation. The authors would also like to thank the USAID | DELIVER PROJECT Nigeria staff for their administrative support during this assessment.

Special thanks are also extended to members of the assessment team who carried out the field work with dedication—providing the findings, sharing valuable information and perceptions, and summarizing the results of the assessment for this report: Ekpeno Akpanowo, Yusufu Bilbis, Dr Enang Oyama, Fohotnan Makah, and Joshua Nongomin.

An assessment of this scope involves contributions from so many people that it is impossible to acknowledge all of them; we would certainly omit many if we attempted to do so. The numerous individuals who contributed to the authors' activities did so in various and positive ways. The authors are sincerely grateful for their in-depth and extensive assistance.

The authors wish to express their profound gratitude for the efforts demonstrated, and wish to state that the success of the health system in Nigeria, especially in areas of health commodity logistics system improvements and pharmaceutical management, will continue to depend on collaboration, goodwill, and hard work to overcome the complexity of the challenges faced at this time.

Executive Summary

The USAID | DELIVER PROJECT, Task Order 1, is providing technical support to the National Tuberculosis and Leprosy Control Program (NTBLCP) to strengthen supply chain performance. In January 2009, during the initial phase of technical assistance efforts, the NTBLCP of the Federal Ministry of Health (FMOH), with technical assistance from the USAID | DELIVER PROJECT conducted an assessment of the physical status, as well as the operational capacity, of the Central Medical Stores tuberculosis (TB) unit store, three state tuberculosis and leprosy (TBL) stores, and six zonal warehouses.

The assessment's overall objective was to determine the current condition of the national storage system for TB drugs. This report presents the findings of the assessment and identifies the short-, medium-, and long-term requirements necessary to ensure that good warehouse practices (GWP) are in place and maintained within the warehousing system of TB commodities in Nigeria.

Major Findings

Receiving processes are adequate and there is managed control of the receiving workload, but the reliability of data from the system is considered to be poor due to inconsistent implementation of standard operating procedures (SOP).

Facilities are able to process orders on time, with only occasional delays. In smaller facilities, limited working space restricts the use of appropriate tools that would make the order fulfillment process easier, more accurate, and possibly reduce damage to stocks.

Stock transaction recording differed between facilities, but was usually adequate and updated; although within existing processes, there is no clear transactional documentation control process. A well functioning and robust logistics management information system (LMIS) will require more details to be consistently recorded according to established SOPs.

Many facility managers blamed weaknesses on an insufficient number of staff, but assessors considered that the likely cause is actually a lack of dedicated and formally trained staff with logistics tasks detailed in their job descriptions.

Systematically poor material handling methods witnessed in all facilities pose an immediate risk to the integrity of supplies; it cannot be guaranteed that they will be stored in good condition, or that staff will not be injured while handling them.

The majority of stores need to improve the safety and health conditions for personnel. The Central Medical Store (CMS) in Lagos should immediately address work place hazards by removing shelving that is collapsing and eliminating the high risk of exposure to sharps resulting from the poor disposal of medical waste.

Warehousing activities, in general, do not reflect the application of GWP; there is the potential to severely compromise TB supplies. The system does not demonstrate any significant cohesion of procedures. Supervisory visits occur but, currently, they are sporadic and do not include a review of logistics activities.

Background

Tuberculosis in Nigeria

Nigeria has the world's fourth largest tuberculosis burden, with nearly 450,000 estimated new cases annually. Both the case detection and treatment success rates are considered to be among the lowest of the high-TB burden countries.

Table 1. TB Surveillance and Epidemiology, 2006

Population	**144,720,000**
Estimates of epidemiological burden	
Incidence (all cases/100,000 pop/yr)	311
Mortality (deaths/100,000 pop/yr)	81
Of new TB cases, % multidrug-resistant tuberculosis (MDR TB)	1.9
Of previously treated TB cases, % MDR TB	9.3

The public health burden posed by TB is becoming increasingly important as the country's HIV and AIDS epidemic unfolds. The World Health Organization (WHO) estimates that 27 percent of Nigeria's TB patients are HIV-positive (WHO 2007).

Tuberculosis Program Administration in Nigeria

The FMOH of Nigeria creates health policies and provides strategic guidance, coordination, supervision, monitoring, and evaluation. Each of the three levels of government (federal, state, and local) has a responsibility to finance health care. Their specific roles and responsibilities are clearly defined within the Nigerian Constitution. However, because states operate as autonomous entities, the FMOH cannot force the state ministries of health to implement the health policies and programs it develops. All national health policies are approved by the National Council of Health, which comprises all state health commissioners and the FMOH.

The FMOH declared TB a national emergency in April 2006 and inaugurated the National TB-HIV Working Group in June 2006. The NTBLCP was established by the Federal Government of Nigeria in 1988 to coordinate and provide strategic direction for TB and leprosy control activities in Nigeria. To be effective, the program was designed to penetrate to the grass roots–level of the policy of Nigeria. In response to this mandate; in line with the tiers of government represented in the Nigerian Federal System, State Tuberculosis and Leprosy Control Programs (STBLCP) were established within the Department of Public Health or Primary Health Care in the respective state ministries of health. This was intended to ensure closer monitoring of the program and to increase its impact against these diseases. The state teams are headed by a medical officer designated as the State TB/Leprosy Control Officer.

The primary program objectives of the NTBLCP are to do the following:

- Reduce the prevalence of leprosy, TB, and buruli ulcer to a level at which they no longer constitute public health problems.
- Prevent and reduce the impairments associated with leprosy and buruli ulcer, as well as provide appropriate rehabilitation for persons affected by these diseases.

To achieve these objectives, the federal government has partnered with international organizations—USAID, the German Leprosy and Tuberculosis Relief Association (GLRA), WHO, DFID, Canadian International Development Agency (CIDA), and others to solicit support in combating these diseases. These agencies and organizations are providing support in various areas, some of which include but are not limited to—

- coordinating TB activities at the state, zonal, and national levels
- establishing directly observed treatment short-term (DOTS) treatment centers in new local government areas (LGAs)
- expanding the diagnostic network by providing microscopes, reagents, and other laboratory equipment
- training laboratory technicians to work in new microscopy centers
- training cadres of health workers on DOTS service delivery and joint TB-HIV and AIDS activities
- expanding DOTS into HIV and AIDS antiretroviral treatment sites.

These combined efforts made by the Government of Nigeria and its partners are considered to have contributed a great deal toward bringing TB into focus by directing efforts to ensure maximum impact.

The Tuberculosis Control Assistance Program is a USAID-supported five-year cooperative agreement (2005–2010) that has been awarded to the Tuberculosis Coalition for Technical Assistance (TBCTA). TBCTA contributes to the decrease in morbidity and mortality by increasing case detection and treatment success for TB patients in Nigeria.

Tuberculosis Commodity Warehousing

The current NTBLCP supply chain in Nigeria is managed at a federal level from Nigeria's capitol, Abuja. Supplies are received from international sources via the federal CMSs in Lagos. The CMS houses and distributes national TB requirements from a separate store, which is located within a larger facility, and encompasses essential medicines and supplies for other programs.

In November 2007, the NTBLCP decided to create zonal warehouses for TB supplies. The Christian Health Association of Nigeria (CHAN) conducted an assessment to determine optimal warehouse sites within each Nigerian geopolitical zonal headquarters, giving preference to facilities within existing state CMSs, where feasible. After sites were identified, NTBLCP requested the assistance of the respective STBLCP and state stores for the allocation of staff and space. By February 2008, six zonal warehouses had been selected, rehabilitated, and were in use.

Under the current logistics system, the six zonal warehouses are designed to function as adjuncts to the CMS; they are supposed to operate as temporary holding facilities, whereby they receive and forward

state-level supply requisitions from the CMS to the states. Actually, the zonal stores house supplies and prepare shipments to state TBL stores. From the zones, onward distribution is managed independently by each of the 36 states, plus the Federal Capital Territory (FCT) of Abuja. Each of these maintains their own vertical TBLCP commodity stores, usually in proximity to the respective State CMS. No federal or zonal vehicles are based at the zonal level under the exclusive control of the NTBLCP. Subsequently collections of TBLCP supplies by the respective States is the norm. A distinctive feature of the current arrangement is the absence of centralized NTBLCP control over the supply chain. Third parties complete the procurement. The independent CMS manages the national level TBL store; third parties manage the transport requirements; and the NTBLCP retains no direct budgetary control. Additionally, state staff working at the TB zonal stores are seconded to NTBLCP, but are paid by the State Ministries of Health (SMOH), who also pay the running costs for the warehousing facilities. Within this environment the NTBLCP logistics unit seeks to manage the supply chain and associated resources.

Technical Assistance

In 2009, to strengthen supply chain performance, the USAID | DELIVER PROJECT began providing technical support to the NTBLCP. In the initial phase of technical assistance efforts, one of the first tasks scheduled to be performed was an assessment of the physical status and operational capacity of the CMS TBL unit store, NTBLCP zonal TBL warehouses, and some state TBL stores.

General Objective

The overall objectives of this technical assistance were to determine the status quo of TB warehousing facilities and to identify the short-, medium-, and long-term requirements necessary to ensure that GWPs are in place and maintained within the warehousing system of TB drugs in Nigeria.

Specific Objectives

The specific objectives of the TB warehousing assessment are indicated below.

1. Identify strengths and weaknesses in current warehouse practices in the following areas:
    - receiving
    - picking, packing, and dispatching
    - distribution
    - inventory control
    - storage space and conditions
    - organizational support for logistics
    - human resources
    - security
    - health and safety.
2. Identify and prioritize the objectives required to achieve GWPs.
3. Create an action plan of short-, medium-, and long-term interventions, including infrastructure and human resource requirements necessary to meet the GWP objectives.

TB Warehousing Assessment Methodology

The USAID | DELIVER PROJECT approached this assessment by incorporating a number of mechanisms standard to this kind of activity; each is detailed below.

Background Document Review

A draft version of NTBLCP SOPs, a publication of the Federal Ministry of Health and John Snow, Inc., and publications, such as *Guidelines for Warehousing Health Commodities and Guidelines for the Storage of Essential Medicines and Other Health Commodities,* were used extensively as support documents for this exercise.

See the references for a complete list of the documents reviewed for this assessment.

Key Informant Discussions

Both formal and informal discussions were held with key informants at state- and central-levels throughout the duration of the TB warehousing assessment. Discussions focused on obtaining background information for program procedures, obstacles to implementing GWPs, and contextual issues regarding TB warehousing within the general supply chain management of public health commodities in Nigeria. Though most contact occurred with MOH personnel, individuals from the USAID | DELIVER PROJECT, TBCAP, and CHAN were also engaged in discussions.

See annex 1 for a complete list of key informants contacted for this assessment.

Warehouse Assessment Tool

The Warehouse Assessment Tool, developed by the USAID| DELIVER PROJECT, is a guide for collecting information on the functioning of specific aspects of a warehouse and to systematically record observations from site visits. It provides both a quantitative and qualitative framework to perform a comprehensive assessment of the performance of a warehouse system for any health program managing any type of health commodities.

The questionnaire is used to guide interviews and site visits. The warehouse assessment tool questionnaire found in annex 4, is one mechanism for synthesizing data into a manageable number of questions that, together, paint an overall picture of the warehousing system.

The tool contains questions, and instructions on scoring; and summary boxes for strengths, weaknesses, and general highlights, plus a section for developing objectives and interventions. The logistics components detailed below are addressed in the questionnaire. All questions in each component are not necessarily relevant to all facility levels.

Warehouse Logistics Components Assessed:

- receiving
- picking, packing, and dispatching
- distribution
- inventory control
- storage space and conditions

- organizational support for logistics
- human resources
- security
- health and safety.

Warehouse Assessment Team Composition and Training

Three assessment teams, which included NTBLCP, the USAID| DELIVER PROJECT, TBCAP, and CHAN personnel, were created for this exercise. Assessors were selected and team composition was organized so that each team had a balance of experience about one or more of the knowledge areas covered in the warehouse assessment tool, as well as policy or program expertise, because policy questions are incorporated into several sections. On the first day of the short-term technical assistance (STTA), teams met to review the warehouse assessment tool, familiarize themselves with the methodology to be used, and clarify any questions that were raised about specific elements of the warehouse assessment tool. During this training, questions that were not relevant to the statement of work (SOW) of the TB warehousing assessment, such as those applicable to the cold chain, were deleted from the standard version of the tool.

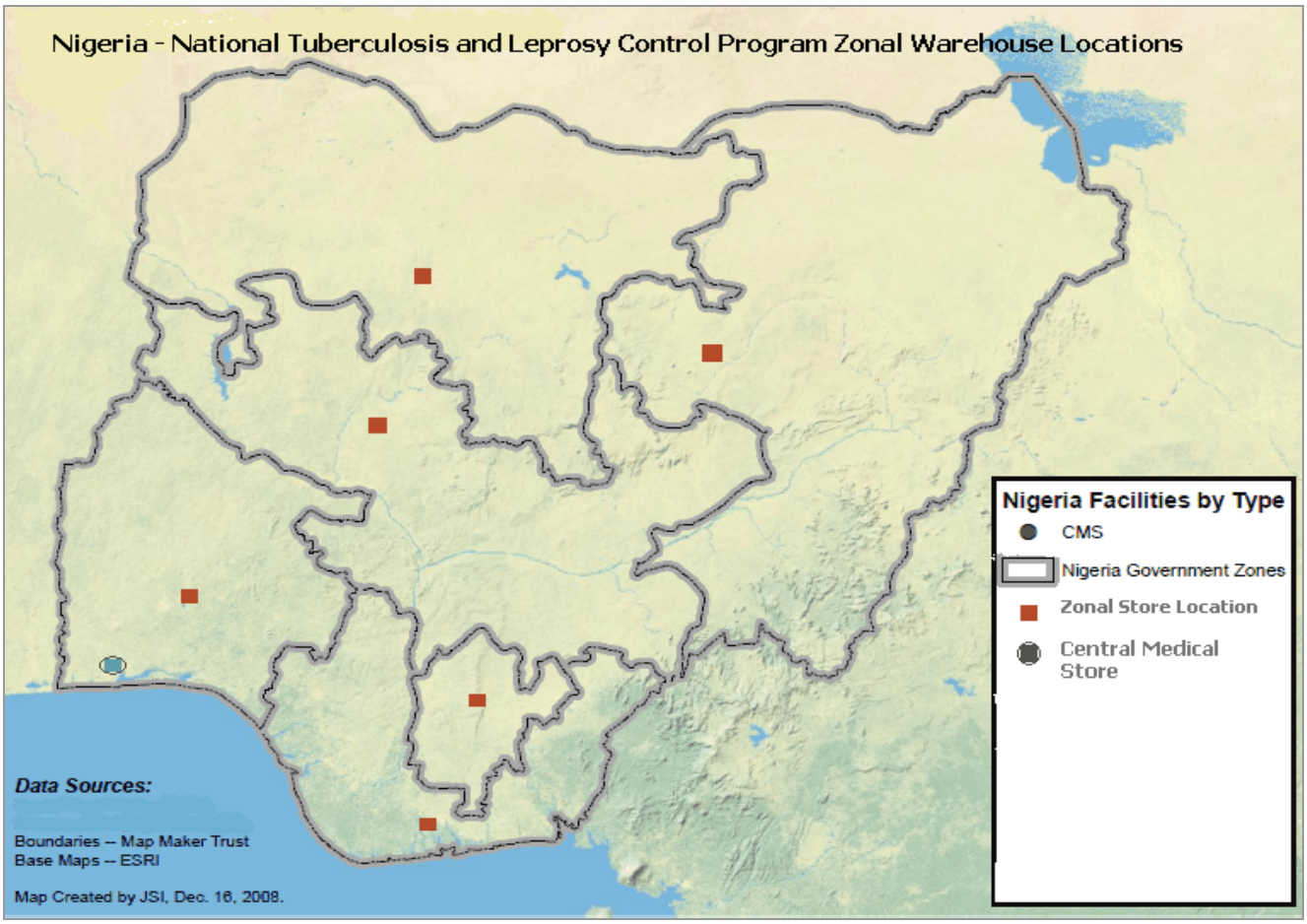
Warehouse Visits

During two weeks, assessments were conducted for the FMOH CMS TBL unit store, six TBL zonal warehouses, and three state TBL stores, using the warehouse assessment tool. See table 2 for the locations of the facilities visited.

Table 2. TB Warehousing Assessment Site Visits

Facility Name	Zone	Facility Type	Location
NTBLCP zonal store	North East	Regional	Bauchi, Bauchi State
NTBLCP zonal store	South West	Regional	Ibadan, Oyo State
State NTBLCP store	South West	State	Ibadan, Oyo State
NTBLCP zonal store	South South	Regional	Port Harcourt, River State
NTBLCP zonal store	South East	Regional	Enugu, Enugu State
NTBLCP zonal store	North Central	Regional	Kaduna, Kaduna State
State NTBLCP store	North Central	State	Kaduna, Kaduna State
NTBLCP zonal store	North West	Regional	Minna, Niger State
State NTBLCP store	North West	State	Minna, Niger State
FMOH Central Medical Store TBL Unit Store	South West	Central	Lagos

Figure 1. NTBLCP Zonal Warehouse Locations



Objectives and Interventions Development

Immediately after the interviews with staff were complete and the walkthrough of the warehouse was complete, the respective assessment teams were tasked with developing objectives considered to be necessary to achieve GWPs. For each objective, the team then suggested interventions that needed to be done to achieve the objective. Then, each objective and intervention was prioritized. Finally, each intervention was ranked according to feasibility based on the extent of support from stakeholders, relevant policies, and logistics systems infrastructures.

Analysis of Warehouse Assessment Questionnaire Results

After site-specific assessments were conducted, teams convened back in Abuja for two days to review their findings. This process included a thorough presentation and review of questionnaire scores, individual facility strengths and weaknesses, as well as the creation of recommendations for site-specific objectives and interventions.

The results from this common review of the separate warehouse assessment questionnaires obtained from specific site visits were used to identify general observations about current warehouse practices strengths and weaknesses that were common to most facilities visited. From these general observations, objectives for the NTBLCP were developed to achieve GWP in all facilities storing TB supplies within the NTBLCP warehousing system.

Debriefings

The NTBLCP logistics officer gave a debriefing to stakeholders of USAID, the USAID | DELIVER PROJECT, NTBLCP, FMOH, and TBCAP personnel on the initial results from the TB warehousing assessment. General observations were made and key strengths and weaknesses of the system were identified. Prioritized objectives and a sampling of recommended interventions were presented.

TB Warehousing Strengths and Weaknesses

Receiving

Receiving processes throughout all facilities are adequate enough to provide managed control of the related workload at existing demand levels. The store staff understand the importance of having complete documentation while receiving commodities into the warehouse. While most stores do not have a separately demarcated area for receiving commodities, this has no observable effect on receiving activity, as there is generally sufficient space to process receipts in the TBL stores visited. However, this does not apply to state TBL stores where assessment teams found acute space constraints. In the state TBL stores visited, the space available will not allow for effective execution of receiving operations, as well as other warehouse logistics processes.

Though facility staff expressed no concerns in this area, all receiving is done through a time intensive process of manually offloading and reassembling shipments. This may lead to inaccuracies and may be compounded by receipts being mixed in with inventory destined for storage or with assembled shipments staged for pick up by LGAs. This manual process is further compounded by receiving docks (if present) that vary in height, the result being that they cannot accommodate vehicles of different sizes. This results in a labor-intensive operation where personnel have to manually offload shipments carton by carton. Also, the planning of delivery receptions and subsequent inventory storage planning does not occur cannot presently be coordinated because lower-level facilities are not informed of incoming shipments in due time. Furthermore, in some facilities manual processes may compromise the reliability of data due to the lack of implementation of SOPs. However, SOP drafts were available and implemented to some degree at the South-East zonal warehouse in Enugu and the South-South zonal warehouse in Port Harcourt.

Picking, Packing, and Dispatch

As noted previously, with receiving activities, picking, packing and dispatch processes throughout all facilities are adequate enough to provide managed control of the related workload at existing demand levels. It should be noted that most activities related to picking, packing, and dispatch, as well as receiving, occur every quarter and, therefore, day-to-day productivity demands are relatively low. Subsequently, facilities reported that quarterly orders can be processed quickly without delays, other than the occasional clarification of requisition forms from lower-level facilities. However, there are no set operational procedures established for preparing orders, particularly when less-than-case quantities are requested; neither is there a formal reporting system or feedback mechanism in place to confirm dispatch from the state level to lower-level facilities. In addition, most facilities had limited or even no working space dedicated to picking, packing, and dispatch. This restricts the use of appropriate tools, such as order assembly tables or packaging material that can help make the order fulfillment processes easier and more accurate and will prevent damage to commodities.

Figure 2. Order Being Assembled Directly on a Concrete Floor

Distribution

The use of a quarterly distribution schedule greatly assists facilities in their work planning. The CMS TBL unit store uses available transport from CMS Lagos to ship orders to zonal stores. State TBL stores pick up their supplies from the zonal stores, but they are not responsible for onward distribution to LGAs, which arrange and provide their own transportation for picking up their orders. Generally, activity related to distribution at the zonal level is small and limited to the reception of incoming goods and dispatching of quarterly orders.

Regardless of the limited demands placed on the system, within the existing processes, there is no clear transactional documentation control process, or even regular communications, with lower-level facilities. For example, a variety of different-sized vehicles come to pick up orders from zonal stores without first being informed of the volume to be transported. This has impacted deliveries in the past because vehicles of an inadequate size were dispatched. Also, oversized vehicles have been utilized, resulting in cost inefficiencies.

Also, significant to the lack of a clear transactional documentation control process is a weak feedback mechanism for NTBLCP to verify that the LGAs have gone to stores to retrieve their orders. Again, SOPs have been drafted that, when implemented, should strengthen this process. At the time of the assessment, NTBLCP could not confirm the finalization and dissemination schedules.

Inventory Control

The list of medical commodities that NTBLCP coordinates comprises eight drugs used for TB, ten drugs used for leprosy, 32 lab items, and three items described as medical material. The amount of items does not overwhelm staff; although the type of stock transaction data collected on stock records from facilities differs; where they are present, they were consistently found to be current and filled out according to the standards of each respective facility. However, to have a well functioning and robust LMIS, more details, such as transaction references, losses and adjustments, and verification signatures must be consistently recorded according to the soon-to-be established SOPs.

All facilities responded that stock was rotated according to a first-to-expire, first-out (FEFO) rule, yet the recording of expiration dates or batch numbers on stock cards was not observed in any location

assessed. Therefore, there is a likelihood of improper stock rotation and the chance of expired stock being generated is quite possible.

All facilities reported that physical inventories are conducted at least once a year. Some facilities reported that they conduct routine cycle counts. No facility, however, could tell the assessment teams how accurate the inventories are or how reconciliation of stock discrepancies is done, because this information is not recorded or tracked.

The use of computers for recording, monitoring, and reporting inventory data is limited throughout the TB logistics system. The majority of zonal stores currently use manual processes for inventory control. The procurement of computer equipment for this purpose has commenced, but software selection and the planning of training activity had not been finalized at the time of the assessment. Where computers are in use, a variety of software was being used for inventory control purposes. Until zonal stores can, at least, produce electronic data, management reporting inputs will be difficult to obtain and of insufficient quantity. This will subsequently compromise the availability of accurate and timely data that the NTBLCP management could use to inform their decision making.

Storage Space and Conditions

Facilities storing TB commodities used a number of structures of various ages, ranging from those of the early 1900s to some constructed or renovated more recently for the expressed purpose of health commodity storage. Regardless of age, most facilities could provide adequate storage and working space, as well as infrastructure components that protect commodities from harmful environmental conditions. Smaller-size facilities generally displayed the most inadequate infrastructure.

Figure 3. Well-constructed Storage Facilities

In general, building walls are solid and sound, but some display the effects of humidity. In a few stores, holes in ceilings were found near leaks. Overall, however, no facility had environmental conditions that posed an immediate risk to commodities; but, systematically poor material handling methods that posed an immediate risk to commodities were witnessed throughout all facilities. It is not possible to guarantee that commodities will be stored in good condition, or that staff will not be injured while handling them. From the presence of significant amounts of dust throughout buildings to the pending collapse of shelving, sub-optimal conditions were found everywhere.

Figure 4. Debris, Foodstuffs, and Obsolete Equipment Around Warehouse Perimeter

Figure 5. Warehoused TB Commodities Stored Directly on Concrete Floor

The effective use of available storage height using bulk racking or adequate shelving was rarely seen in larger facilities. Where storage is mainly done on pallets, it was occasionally observed that this was done in excess of the recommended height. Boxes were damaged because of the weight load, or from the collapse of stacked cartons.

During the assessment, the percentage of potential storage space volume being used for stored commodities varied significantly throughout the facilities visited. Some zonal stores and state TBL stores were severely overcrowded, while others were not. Congestion or lack there of had a visible impact on the ease at which personnel could operate within each facility. Where congestion was high, aisles and work areas were not kept clear to allow for easy access to stock. It was difficult to imagine that stock counting to be possible in some locations. The resultant ad hoc storage was so haphazard that the possibility of picking errors occurring was perceived to be quite high. NTBLCP personnel expressed concern that facilities suffering from congestion now will only be in worse condition should the use of patient kits and the associated increase in stored volumes be implemented.

Air-conditioning units and ceiling fans were found in almost all warehouses, but monitoring devices were not used to record the temperatures.

A limited number of handheld fire extinguishers were present in the warehouses assessed. These are probably inadequate to extinguish a fire of any significant size. Most of the extinguishers examined were

of recent installation and were found to be in accessible locations, but records of periodic maintenance are not kept. To compound this, some staff indicated that they had received no training in the use of fire extinguishers.

Figure 6. Inaccessible Fire Extinguisher

Forklifts would only be appropriate at two stores due to a combination of low material handling volumes, space restraints, and physical infrastructure of stores. The use of manual pallet lifters would greatly assist warehouse staff in their workload and would suit the warehousing environments encountered during the assessment. An initiative to provide facilities with pallets has been successful but implementing their proper storage and use was not consistently seen.

Organizational Support for Logistics

The coordination of activities between various levels of the NTBLCP logistics networks is minimal due to a lack of central-level authority over facilities and their operations. It was frequently noted that although supervisory visits exists are made between facilities and higher levels, they are sporadic, informal, and do not address a review of logistics activities. There are no established communication channels between warehouses and the state MOH. As a result of the low level of communications and subsequent lack of data exchange, planning is limited and the ability to robustly respond to needs is severely compromised.

Human Resources

Though a few facility managers expressed that they had an adequate number of staff who were trained and confident in meeting operational demands, the majority complained that they had an insufficient number of staff. Assessors considered it is likely that rather than an insufficient number of staff being responsible for weaknesses, the cause is actually a lack of dedicated and formally trained staff with logistics tasks detailed in their job descriptions.

Capacity building activities, dissemination of SOPs, and use of standardized LMIS tools and supportive supervision should be made a priority to ensure that human resources are qualified (and in sufficient quantity) to meet operational needs.

Individual performance reporting, or the monitoring of performance, is not conducted at NTBLCP facilities. Assessment teams often noted that personnel were not aware of standard GWPs, or the basic tasks required to achieve optimal inventory management.

Security

Security is a significant component in commodity storage; it was one of the highest scoring areas during the TB warehousing assessment. Product security is assured in almost all facilities. Warehouses and stores are located within fenced compounds with dedicated security personnel; they were always securely locked with keys. However, the following points should still be addressed:

- One facility store is located within a patient ward, which increases the risk of unauthorized proximity of patients to TB commodities.
- Stock, when dispatched in less-than-case quantities, is not always shipped in sealed boxes, increasing its exposure to theft.
- Access to stores by unauthorized persons should be more strictly controlled to minimize the exposure of commodities to theft and provide a better follow-up if shortages are noted.
- The delayed implementation of SOPs, in particular their associated LMIS forms, compromises internal security and control measures.
- Although in-house security personnel are stationed at almost all premise site entry points, warehouses were not guarded.

Figure 7. Warehouse with Physical Infrastructure Providing Good Access Control

Health and Safety

Throughout most facilities, health and safety was one of the lowest scoring sections of the TB warehousing assessment. Most stores met some safety and hygiene standards; however, the majority of store managers need to improve the safety and health conditions for personnel by providing training in work place hazards, such as risk identification and fire drills, as well as providing some basic personal protective equipment. Warehouses should also have running water and functioning toilet facilities.

Corrosive and poisonous substances stored as expired commodities awaiting removal from the Lagos TBL for subsequent disposal pose a potential health hazard to personnel. The CMS in Lagos should also immediately address work place hazards, specifically collapsing shelving and a high risk of exposure to sharps from poorly disposed-of medical waste.

Site Reports Summaries

Zonal TBL Warehouses

Location:

South South Zonal Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 06/01/09 _____(DD/MM/YY)

Facilitator(s):

Pharm. Ekpeno Akpanowo	Logistics Officer, NTBLCP
Nongomin Ter Joshua	Senior Technical Auditor, Christian Health Association of Nigeria (CHAN)
Austine Omiunu	M&E Advisor USAID|DELIVER PROJECT

Location: **South South Zonal TBL Store, Port Harcourt, River State, Nigeria** _____

Note taker: Austine Omiunu _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Pharm. Demua Baritoa	Zonal Pharmacist In-Charge South South Zone
Dr Agborubere	State TB Coordinator

_____ _____ _____ _____

Note: The South Zonal store occupies a section of the River State CMS, both of which are housed in the same building.

Warehouse Assessment Questionnaire Scoring Sheet Results: South South Zonal Store

SECTION	KEY STRENGTH	KEY WEAKNESS	SCORE FOR THE SECTION
A. Receiving	SOPs are available and proper receiving procedures are followed	No separate receiving area is demarcated	93%
B. Pick. Pack and Dispatch	There are no backlogs in order fulfillment	Labor for picking and packing is not adequate according to management	90%
C. Distribution	Distribution procedures are in place and proper documentation is kept	There is a lack of a proper filing system for documents.	60%
D. Inventory Control	Inventory is maintained using procedures designed on site	Stock cards are printed on paper and filed with shipment documentation	96%
E. Storage, Space and Conditions	Dedicated storage space for the zonal TB store is available	Flammables and corrosives are not stored separately. Maintenance for electrical and plumbing is not provided for in the operational budget	76%
F. Human Resources	Written guidelines for operations are in place	Training is not regular. According to management there is Inadequate staff to meet operational demands	54%
G. Organizational Support for Logistics System	Supervision is provided from the central level	Communication flow is infrequent between program levels	97%
H. Health and Safety	Storage space is clean and in good condition	Basic fire safety training has not been addressed. Protective gear for operations is not provided	64%

Location

North East Zonal Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 06/01/09 _____ (DD/MM/YY)

Facilitator(s):

Yusuf Bilbis Scientific Officer I

Fohotnan Makah Procurement & Supply Officer,
Christian Health Association of Nigeria (CHAN)

Sharon Simpa Performance Improvement Advisor, USAID | DELIVER PROJECT

Location: **North East Zonal TBL Store, Bauchi, Bauchi State, Nigeria**_____

Note taker: Sharon Simpa _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify):_____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Galadi Abdulkadri	Zonal Pharmacist In-Charge
Nasir Baba	Store Officer

_____ _____ _____ _____

Note: The North East zonal store resides in an enclosed state CMS compound centrally located in the center of Bauchi town. It was recently renovated by CHAN. The TB state store occupies a shelf in the zonal store.

Warehouse Assessment Questionnaire Scoring Sheet Results: South South Zonal Store

SECTION	KEY STRENGTH	KEY WEAKNESS	SCORE FOR THE SECTION
A. Receiving	SOPs are available and proper receiving procedures are followed	No separate receiving area is demarcated	93%
B. Pick. Pack and Dispatch	There are no backlogs in order fulfillment	Labor for picking and packing is not adequate according to management	90%
C. Distribution	Distribution procedures are in place and proper documentation is kept	There is a lack of a proper filing system for documents.	60%
D. Inventory Control	Inventory is maintained using procedures designed on site	Stock cards are printed on paper and filed with shipment documentation	96%
E. Storage, Space and Conditions	Dedicated storage space for the zonal TB store is available	Flammables and corrosives are not stored separately. Maintenance for electrical and plumbing is not provided for in the operational budget	76%
F. Human Resources	Written guidelines for operations are in place	Training is not regular. According to management there is Inadequate staff to meet operational demands	54%
G. Organizational Support for Logistics System	Supervision is provided from the central level	Communication flow is infrequent between program levels	97%
H. Health and Safety	Storage space is clean and in good condition	Basic fire safety training has not been addressed. Protective gear for operations is not provided	64%
I. Security	Access is controlled and monitored within the warehouse	Access to the premises is not controlled or monitored	59%

Objectives and Interventions: South South Zonal Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify Human Resource Requirements	Time Frame
Objective 1: Improve Security and Safety						
Interventions Provide premise guards Provide basic fire safety training Provide protective gear for warehouse operations Address maintenance issues	 **3** **3** **2** **3**	 **3** **3** **2** **2**	NTBLCP	Fire Safety equipment Smoke Alarms Protective footwear, gloves and aprons Budget for water pipe repairs		3 months
Objective 2: Improve data records						
Interventions Files and filing cabinets should be deployed to the warehouse for use.	**3**	**2**	NTBLCP	Lockable steel cabinets		3 months
Objective 3: Deploy standard inventory control tools						
Interventions Print and use standard stock cards	**2**	**3**	NTBLCP	None		1 month
Objective 4: Provide regular capacity building for staff						
Interventions -Regularly Train and retrain staff	**3**	**3**	NTBLCP	None		6 months

Location

North East Zonal Store

WAREHOUSE ASSESSMENT TOOL QUESTIONNAIRE
BACKGROUND INFORMATION

Date: 06/01/09_____ (DD/MM/YY)

Facilitator(s):

Yusuf Bilbis	Scientific Officer I
Fohotnan Makah	Procurement & Supply Officer, Christian Health Association of Nigeria (CHAN)
Sharon Simpa	Performance Improvement Advisor, USAID|DELIVER PROJECT

Location: **North East Zonal TBL Store, Bauchi, Bauchi State, Nigeria**_____

Note taker: Sharon Simpa_____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ■ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify):_____

Level visited: ❑ Central ■ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Galadi Abdulkadri	Zonal Pharmacist In-Charge
Nasir Baba	Store Officer

Note: The North East Zonal store resides in an enclosed state CMS compound centrally located in the center of Bauchi town. It was recently renovated by CHAN. The TB state store occupies a shelf in the Zonal store.

Objectives and Interventions: North East Zonal Store

	Priority Scale: 1=low 2=med. 3 high	Feasibility Scale: 1=low 2=med. 3 high				Time Frame
Objective 1: Implement stock keeping and management records						
Interventions Provide capacity building for staff Develop monitoring protocol and conduct regular supportive supervisory visits to review logistics activities and provide on-the-job training	 **3** **3**		NTBLCP and other Partners		Pharmacist/Store/ Record/Officers at all levels	3 months
Objective 2: Ensure appropriate and timely distribution of commodities						
Interventions Develop and institutionalize distribution schedule Disseminate SOP on logistics procedures	 **3** **3**	 **3** **3**	 NTBLCP TBCAP and other Partners		Personnel within the pipeline (CMS, zones, and state level)	6 months
Objective 3: Ensure protection of commodities and safety of staff by adhering to good storage practices						
Interventions Procure trolleys, racks, additional pallets, stepping stool/ladder, mowers, and rakes. Procure fire-fighting equipment Reconstruct store to have receiving bay	 **3** **3** **2**	 **3** **2** **1**	Unit budget line/NTBCLP	Zonal store (building) infrastructure improvements and renovation	Management	6 months

Locaton

South West Zonal Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 08/01/09 _____ (DD/MM/YY)

Facilitator(s):

Yusuf Bilbis Scientific Officer I

Fohotnan Makah Procurement & Supply Officer,
Christian Health Association of Nigeria (CHAN)

Sharon Simpa Performance Improvement Advisor, USAID | DELIVER PROJECT

Location: **South West Zonal TBL Store, Ibadan, Oyo State, Nigeria** _____

Note taker: Sharon Simpa _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Pharm. Akinwande	Zonal Pharmacist In-Charge
Kola Adegboola	Zonal Store Officer
Akeem Badmus	Store Assistant

_____ _____ _____ _____

Note: The South West zonal store occupies a separate building within the old Adeoyo hospital in Ibadan. It was recently renovated by CHAN, although the two generators supplied have not been installed. The newly renovated store has old shelves that require thorough cleaning and repainting.

Warehouse Assessment Questionnaire Scoring Sheet: South West Zonal Store

SECTION	KEY STRENGTH	KEY WEAKNESS	SCORE FOR THE SECTION
A. Receiving	Adequate space available for receipt and storage	Receiving Procedures not adhered to	56%
B. Pick. Pack and Dispatch	The activities related to this section all perform satisfactory	None noted	100%
C. Distribution	Distribution Schedule utilization and availability of vehicles to delivery drugs to states	Deliveries are not reconciled with orders	75%
D. Inventory Control	Stock keeping records updated	No Standard Operational Procedures (SOP) in place	44%
E. Storage, Space and Conditions	Store is newly renovated by CHAN	Unkempt environments (grass, dirt, dusty shelves, floor) is present throughout building and entire premises	26%
F. Organizational Support for Logistics System	Budget for transportation (CMS to Zones-CHAN)	No Supervisory records kept or utilized for operational performance monitoring	30%
G. Human Resources	Trained personnel are present	Inadequate levels of HR reported by facility management	47%
H. Health and Safety	Storage area well lit	Water logged toilets pose a health hazard to staff	35%
I. Security	Secured store within New Adeoyo Hospital complex supports commodity security	No measures in place to prevent staff pilferage	56%

Objectives and Interventions: South West Zonal Store

	Priority Scale: 1=low 2=med. 3 high	Feasibility Scale: 1=low 2=med. 3 high				Time Frame
Objective 1: Ensure adherence to proper warehousing practices to promote healthy environment						
Interventions Remove dirt and debris around the store premises and cut grass Engage a designated personnel to keep the store clean all the time Repair faulty toilet	 **3** **3** **3**	 **3** **2** **1**	Management/ NTBLCP	Mowers, cutlass, rake, mopping materials, toilet facilities	Temporarily engaged laborers/store assistants	2 months
Objective 2: Build capacity on LMIS to ensure and institutionalize feedback mechanism for decision making						
Interventions Implement adequate management/reporting tools (SOPs) Train personnel on GWP	 **3** **3**	 **3** **3**	NTBLCP and Partners		Pharmacists, coordinators, store/record officers at all levels	6 months
Objective 3: Strengthen human resources to meet operational demands						
Interventions Recruit/redeploy staff Capacity building Provide working tools	 **2** **3** **3**	 **1** **2** **3**	Management/ NTBLCP		Middle/lower-level management officers	12 months

Location

South East Zonal Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 07/01/09 _____ (DD/MM/YY)

Facilitator(s):

Pharm. Ekpeno Akpanowo Logistics Officer, NTBLCP

Nongomin Ter Joshua Senior Technical Auditor, Christian Health Association of Nigeria (CHAN)

Austine Omiunu M&E Advisor USAID | DELIVER PROJECT

Location: **South East Zonal TBL Store, Enugu, Enugu State, Nigeria**_____

Note taker: Austine Omiunu _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: | Government NGO Social marketing Private

Other (specify):_____

Level visited: Central | Zonal State

Service delivery point Other _____

List the name and title of participants:

Name	Title
Pharm. Martins Ositadinma	Zonal Pharmacist In-Charge South East Zone

Note:

The zonal store occupies rows of shelves within the state central medical building, which also has designated racks for state TBL store. The state TBL store and the zonal store are in the same section of the state CMS. All equipment, such as a trolley, is borrowed for use from the state CMS store. The space constraint does not allow for adequate management of commodities as such; there is no office space for pharmacist in-charge of the zonal store.

Warehouse Assessment Questionnaire Scoring Sheet: South East Zonal Store

SECTION	KEY STRENGTH	KEY WEAKNESS	SCORE FOR THE SECTION
A. Receiving	Proper processes for receiving shipments are in place, warehouse has a separate receiving bay	No proper filing system in place, all documents are kept in a single file.	94%
B. Pick. Pack and Dispatch	Store does not suffer from order backlogs	Inadequate labor provided for picking and packing orders	90%
C. Distribution	Procedures and documentation for distribution are in place and are being used		94%
D. Inventory Control	Inventory control procedures are followed as contained in the SOP	Stock cards are not available and have to be borrowed from the State store	91%
E. Storage, Space and Conditions	Storage space is secure and temperature control systems (AC) are fully functional	There is no dedicated space for the zonal store. All equipment is borrowed from the State store.	83%
F. Human Resources	There is a dedicated trained person in charge of the store	Staff has no office and no store officer to assist	56%
G. Organizational Support for Logistics System	There is adequate support from the central level in terms of supervision	No operational fund exists at the zonal level	100%
H. Health and Safety	Store is kept clean and safe for operations	Lack of running water and toilet facilities are present for staff. Basic fire training is lacking	46%
I. Security	Commodities are adequately secure through the use of theft control mechanisms	The Zonal and state stores share the same space increasing the exposure of commodities to unauthorized personnel.	100%

Objectives and Interventions: South East Zonal Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: Improved Health and Safety to Protect Commodities and Personnel						
Interventions						
Provide running water	**3**	**3**	NTBLCP	Store building and toilet repairs Safety boots, Supply of emergency gloves, goggles, and face shields	Trainers	1 month
Provide adequate toilet facilities	**3**	**3**				
Train staff in fire safety procedures and use of fire safety equipment	**3**	**2**				
	3	**2**				
Provide protective gear for warehouse operations	**2**	**2**				
Train staff on workplace hazard identification	**3**	**3**				
Objective 2: Provide dedicated storage space and equipment for the zonal store						
Interventions						
Identify appropriate store location	**3**	**3**	NTBLCP and State Government	Store building		6 months
Renovate location to meet standard warehouse specifications	**3**	**2**				
	3	**2**				
Provide sufficient and proper storage equipment such as shelving, carts, and pallet jacks	**1**	**2**				
Objective 3: Improved record keeping						
Interventions						
Provide adequate filing systems	**2**	**2**	NTBLCP other partners		Trainers	3 months
Provide training in SPO and LMIS	**2**	**2**				

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 4: Provide sufficient human resources						
Interventions Provide store officers to assist in picking and packing Train store officers on basic warehouse and logistics procedures	**2** **2**	**2** **2**	NTBLCP			3 months
Objective 5: Provide standard inventory control tools						
Intervention Print and deploy updated stock cards	**3**	**3**	NTBLCP		Trainers	1 month
Objective 6: Provide regular capacity building						
Interventions Identify knowledge gaps and make provision for training and retraining on a regular schedule	**2**	**3**	NTBLCP		Trainers	6 months

Location

North Central Zonal Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 07/01/09 _____ (DD/MM/YY)

Facilitator(s):

Bravo Otohabru	Head of Logistics Unit NTBLCP
Dr Oyama	National Profession Officer WHO – TBCAP
Dr Aboje	Deputy Director NTBLCP
Chris Warren	Supply Chain Technical Advisor USAID | DELIVER PROJECT

Location: **North Central TBL Zonal Store, Minna, Niger State, Nigeria** _____

Note taker: Bravo Otohabru _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title	
M.A. Lambata _____	Niger State TBL Control Officer _____	_____
M.M Suleiman _____	Pharmacist In-Charge Niger State CMS _____	_____
Zainab Salihu_____	Senior Pharmacist Niger State CMS _____	_____
Mary Jimoh _____	Pharmacist In-Charge North Central TBL Zonal Store _	_____

Note:

The location of the zonal store is due to be changed to a larger and more suitable location within the Niger State CMS as soon as refurbishment works (presently being conducted by CHAN) are completed.

Warehouse Assessment Questionnaire Scoring Sheet: North Central Zonal Store

Section	Key Strength	Key Weakness	Section Score
A. Receiving	No backlog or congestion; adequate control of receiving process	Receipts left on loading dock; new location adds significant material handling burden	100%
B. Pick. Pack and Dispatch	Facility demonstrated good control of the process	Staff performance levels are not measured; ability to quickly process orders compromised by state-level errors in requisition forms	60%
C. Distribution	There is a formalized distribution schedule (quarterly) for states to retrieve their orders	Zonal store has limited control to prioritize orders	83%
D. Inventory Control	Good stock record keeping; staff are trained in LMIS	LMIS reporting and analysis limited by a lack of computerized inventory control; had a stockout of LMIS forms at the time of the visit	89%
E. Storage, Space and Conditions	Current structure provides for appropriate environmental conditions necessary for commodity storage to be met	New facility floor repair has failed; good warehousing practices noticeably absent (not using available pallets, maize drying adjacent to building, product stored directly on concrete and against exterior walls)	72%
F. Organizational Support for Logistics System		Communications with central level considered to be too infrequent Supervisory visit rarely conducted	45%
G. Human Resources	There is dedicated logistics staff; staff are informally trained and regularly meet to discuss logistics issues	Insufficient quantity of HR; HR training in health commodities management not formalized	38%
H. Health and Safety	Generally adequate	Non-functioning water supply to facility; general housekeeping is poor; no training in health and safety or awareness of possible hazards	69%
I. Security	Good security demonstrated with limited access and locked store rooms	Full time and casual labor not directly engaged with material management; frequently have access to areas in the facility where medicines are stored, heightening the chance of pilferage	84%

Objectives and Interventions: North Central Zonal Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: Expand utilization of existing LMIS within operations	**2**	**2**				
Interventions: Train on and reinforce NTBLCP SOPs Begin to record losses/adjustments, batch numbers and expiration dates Verify adjustments and follow-up stock losses	 2 3 3	 2 3 3	TBCAP & NTBLCP have funding and HR to provide TA			6 months
Objective 2: Increase functionality of Electronic Inventory Control System	**2**	**3**				
Interventions: Supply computer hardware Select and supply LMIS software Provide software/hardware training Apply any software solution to NTBLCP SOP adapt SOP to software if necessary	 2	 3	TBCAP providing funding for software and hardware NTBLCP SOP	PC hardware LMIS software budget for training and sourcing of funding must be obtained from source yet to be identified		 3 months 3 months 6–12 months
Objective 3: Reduce breaks in LMIS	**3**	**3**				
Interventions: Implement NTBLCP LMIS forms usage Order required logistics forms and deliver to zonal store	 2 3	 2 3	TBCAP & NTBLCP have funding to provide required forms			2 months

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 4: Promote improved standard of GWP	**3**	**3**				
Interventions: Utilize pallets Implement self inspections Review GWP during central level visits	3	3	Pallets are available; staff have knowledge of GWP		Visits from Central Level are planned and budgeted for	Immediate
Objective 5: **Complete Rehabilitation of New Store**	**3**	**3**				
Interventions: Repair floor & complete rehabilitation works Ensure that adequate temperature control devices are installed and temperature is monitored	3 3	3 3	Have contractor repair substandard work	Recently repaired floor is cracked and unusable Install necessary equipment to maintain adequate environmental conditions in warehouse		Immediately
Objective 6: Provide sufficient quantity of Human Resources to meet operational demands	**3**	**3**				
Interventions: Redeploy existing staff within State CMS Increase supervisory activity from Central Level to monitor HR needs	3	2	State ministry has authority to implement changes in HR allocation TB Cap & NTBLCP		1 logistics staff person	6 months Immediately

Location

North West Zonal Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 07/01/09 _____ (DD/MM/YY)

Facilitator(s):

Bravo Otohabru	Head of Logistics Unit NTBLCP
Dr Oyama	National Profession Officer WHO – TBCAP
Dr Aboje	Deputy Director NTBLCP
Chris Warren	Supply Chain Technical Advisor USAID | DELIVER PROJECT

Location: **North West Zonal TBL Store, Kaduna, Kaduna State, Nigeria** _____

Note taker: Bravo Otohabru _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Emmanuel Gambo	Deputy State TBL Control Officer/State TBL Store Officer
Magdalene Yayock	North West Zonal Store Officer
David Yang	Pharmacist In-Charge North West Zonal Store

Note: The North West zonal store occupies an entirely independent building within the premises of the Kaduna State CMS. It has recently been refurbished by CHAN. Kaduna State CMS management is currently in the process of removing the remaining items of medical equipment inventory that were previously housed there.

Warehouse Assessment Questionnaire Scoring Sheets Results: North West Zonal Store

Section	Key Strength	Key Weakness	Section Score
A. Receiving	Receiving area is clearly demarcated	Receiving area is cluttered with obsolete equipment, furniture, and commodities not belonging to TBL program	73%
B. Pick. Pack and Dispatch	Ample work area, a suitable facility capacity and little congestion allows for these processes to be conducted with few problems being encountered	No significant weaknesses noted	93%
C. Distribution		No significant weaknesses noted	95%
D. Inventory Control	Adequate stockkeeping procedures and records are utilized	No documented procedures for analysis of inventory losses or adjustments or overall accuracy; facility-level and central-level staff consider existing paper-based system of LMIS to be too limited	78%
E. Storage, Space and Conditions	Well-sized and suitably conditioned store space protects commodities from risk of damage or loss	Material handling practices poor; product was stacked too high, against walls, and directly on the floor	54%
F. Organizational Support for Logistics System		No formalized system for receiving or giving feedback; facility management is not enabled to make logistics concerns known to Central Level in a formalized forum.	72%
G. Human Resources	Competent staff that are of SOP and GWP theory; staff at this facility have been there for over five years	This zonal store lacks dedicated staff to carry out regular storeroom management tasks	56%
H. Health and Safety	Newly installed fire protection equipment is present	There is inadequate training in regard to fire safety; areas inside and outside the facility are cluttered with rubbish and obsolete material requiring disposal	39%
I. Security	The zonal store and entire State CMS have enacted good measures for protecting commodities from theft	At the time of the visit, the zonal store still housed other program commodities and subsequently increased the exposure of TBL commodities to unauthorized personnel	100%

Objectives and Interventions: North West Zonal Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: Ensure proper warehousing of TBL commodities by storing them so that they are always available, accessible, in good condition and pose no risk of injury to workers	**3**	**3**				
Interventions:						
Implement Central Level and self inspection	**3**	**3**	TBCAP and other Partners NTBLCP SOPs State CMS		Training State CMS HR	6 months
Provide GWP training						
Equip warehouse with steel shelves to protect delicate items and stock when handling open cases	**3**	**2**				
Remove obsolete stock from other programs from space dedicated to TBL commodity storage	**2**	**1**				
Train in the use of pallets to raise items off the floor	**1**	**1**				
	3	**3**				
Objective 2: **Ensure the availability of timely and accurate data for decision making**						
Interventions						
Install electronic LMIS to expand its capabilities	**2**	**2**	TBCAP		Training	6–12 months
Provide computers and software and train staff in their use as they apply NTBLCP LMIS and SOP	**2**	**2**				

State TBL Warehouse Site Reports

Location

OYO State TBL Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 08/01/09 _____ (DD/MM/YY)

Facilitator(s):

Yusuf Bilbis	Scientific Officer I
Fohotnan Makah	Procurement & Supply Officer, Christian Health Association of Nigeria (CHAN)
Sharon Simpa	Performance Improvement Advisor, USAID | DELIVER PROJECT

Location: **South West State TBL Store, Ibadan, Oyo State, Nigeria** _____

Note taker: Fohotnan Makah _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Dr Lawal	Oyo State Control Officer
Ajagbe S.O.	State TBLC Supervisor
Babatunde S.O.	State TBLC Supervisor
Shittu M.A	State TBLC Supervisor

Note: The South West state store is located in a separate building from the TBL zonal Warehouse. It requires urgent renovation as the entire roof is leaking, the walls have cracks, and there is seepage in the store floor. In front of the store is an unkempt old poultry house that is not hygienic for commodity storage. There is no other source of electricity as an alternative to the current erratic power supply in the country.

Warehouse Assessment Questionnaire Scoring Sheet: Oyo State TBL Store

SECTION	KEY STRENGTH	KEY WEAKNESS	SCORE FOR THE SECTION
A. Receiving	Availability of proof of delivery	No SOPs, hence receiving procedures not in practice	50%
B. Pick. Pack and Dispatch			
C. Distribution	Distribution schedule in place	No formal means of communication with the lower and higher level	64%
D. Inventory Control	Stock records available	Incomplete record: does not reflect expiration and lot information, no list of stock items	41%
E. Storage, Space and Conditions	Products are protected from direct sunlight	Poor and inadequate storage facility with humid floor condition	10%
F. Organizational Support for Logistics System	Quarterly review meeting with other state warehouse officers	Management of the warehouse is separate from the entire ministry	18%
G. Human Resources	Logistics officer in charge has authority to make decision	Lack of trained personnel	42%
H. Health and Safety	Trained personnel on fire drill	Cracked walls and dampened floor	19%
I. Security	Well lit store	No fenced compound nor measures in place to prevent theft and staff pilferage	31%

Objectives and Interventions: Oyo State TBL Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: Facility should have adequate storage and working space & infrastructure to protect stock from harmful environmental conditions						
Interventions Repair roof and floor Provide handling materials Provide alternative power supply etc., generator and Install air-conditioner	 **3** **3** **3**	 **2** **2** **2**	NTBLCP CHAN TBCAP	State store (building)		3–6 months
Objective 2: Strengthen personnel capacity to meet operational needs and establish feedback mechanism to Central Level NTBLCP						
Interventions Train personnel Provide adequate management/reporting tools and SOPs on warehousing	 **3** **3**	 **3** **3**	NTBLCP and Partners	None		6 months
Objective 3: **Ensure proper warehousing practices**						
Interventions: Engage a dedicated personnel to clean the environment Develop monitoring and supervisory plan to track performance	 **3** **3**	 **2** **3**	NTBLCP	None		4 months

Location

Kaduna State TBL Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 07/01/09 _____ (DD/MM/YY)

Facilitator(s):

Bravo Otohabru	Head of Logistics Unit NTBLCP
Dr Oyama	National Profession Officer WHO – TBCAP
Dr Aboje	Deputy Director NTBLCP
Chris Warren	Supply Chain Technical Advisor USAID | DELIVER PROJECT

Location: **Kaduna State TBL Store, Kaduna, Kaduna State, Nigeria**_____

Note taker: Bravo Otohabru _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title
Emmanuel Gambo	Deputy State TBL Control Officer / State TBL Store Officer
David Yang	Pharmacist In-Charge North West Zonal Store

Note: The State TBL store is located in a small room within the Kaduna State CMS. It is on the same premises as the North West zonal store

Warehouse Assessment Questionnaire Scoring Sheets Results: Kaduna State TBL Store

Section	Key Strength	Key Weakness	Section Score
A. Receiving	- The proximity to the zonal store (within same premises) expedites the receiving process - Quarterly orders and relatively small throughput volumes puts limited pressure on internal processes	Limited size of store does not facilitate the use of packing tables, packing materials, or processing work space	94%
B. Pick. Pack and Dispatch			80%
C. Distribution	Generally good distribution record keeping		83%
D. Inventory Control	Tracking of stock quantities relatively good	- No evident use of LMIS forms - Informal rather than formal logistics training used - Stock records do not record batches, expiration dates, adjustment verification, or transaction references	74%
E. Storage, Space and Conditions		- Much too small a facility to house the expected volumes of commodities required in the near future - Small size of store negatively impacts the ability to perform good warehousing practices	61%
F. Organizational Support for Logistics System	Established and utilized communication channels are in existence	-Although organization support exists, it is very informal, non-documented, and sporadic - Supervisory visit are rarely conducted	60%
G. Human Resources	- Staff are confident of their ability to meet workload demands - Staff consider their training to be adequate - Limited workload does not require full-time staff	- Significant lack of formal training in inventory control and good warehousing practices - Facility management suggests an insufficient quantity of dedicated logistics staff	33%
H. Health and Safety		- Staff are generally unaware of workplace hazards - An unclean environment will expose commodities to damage - Poor lighting makes the working environment challenging	76%
I. Security	- Generally very good conditions - Staff are very aware of security		80%

Objectives and Interventions: Kaduna State TBL Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: Objective 1: Facility to have adequate storage and working space	**3**	**3**				
Interventions Move store to larger space within State CMS or allocate space to state TBL store within the existing zonal store	2	2	Space is available within state CMS premises	- Minimal infrastructure requirements needed - Short-term material handling labor required		6 Months
Objective 2: Store stock so that it is always available, accessible, in good condition, & poses no risk of injury to staff	**1**	**3**				
Interventions: Implement and train on SOP and GWP	3	3	TBCAP, NTBLCP			6 months
Objective 3: Ensure sufficient quantity of qualified staff to meet operational needs	**2**	**2**				
Interventions: Redeploy existing staff from State CMS Utilize one FT staff split between Zonal store and State TBL store	2 2	2 2	State Ministry		1 full-time logistics staff	6 months
Objective 4: Ensure the availability of timely and accurate data for decision making	**2**	**3**				
Interventions: Training in proper stock recording, implementation, and supervision Increase stock data reporting inputs Training in LMIS: implement and supervise	3 2	3 3	TB Cap, NTBLCP resources and staff			6 months

Location

Niger State TBL Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 07/01/09 _____ (DD/MM/YY)

Facilitator(s):

Bravo Otohabru	Head of Logistics Unit NTBLCP
Dr Oyama	National Profession Officer WHO – TBCAP
Dr Aboje	Deputy Director NTBLCP
Chris Warren	Supply Chain Technical Advisor USAID | DELIVER PROJECT

Location: **Niger State TBL Store, Minna, Niger State, Nigeria**

Note taker: Bravo Otohabru _____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title		
M.A. Lambata _____	Niger State TBL Control Officer _____	_____	
Mary Jimoh _____	Pharmacist In-Charge North Central TBL Zonal Store		
Aduma Abdullah _____	In-Charge Niger State Leprosy Referral Hospital_____	_____	
_____	_____	_____	_____

Note: The State TBL store is currently being relocated from an office located within the Niger state. Secretariat to a small room within the Niger State TB Referral Hospital. Because of the relatively small scale of commodity storage and activity in this facility, many aspects of the Warehouse Assessment Tool did not apply.

Warehouse Assessment Questionnaire Scoring Sheets Results: Niger State TBL Store

Section	Key Strength	Key Weakness	Section Score
A. Receiving	Not yet operational in this facility		40%
B. Pick. Pack and Dispatch		Within existing state procedures, there is no clear transactional documentation control process Weak 'feed-back' mechanism in place for the program to verify that LGAs have gone to the store to retrieve their orders	40%
C. Distribution		Because this facility is 7 km away from the state, CMS clients may be encumbered with additional workloads when coming to Minna	40%
D. Inventory Control		Inventory control practices for existing hospital store is adequate but must be more detailed and consistent for this facility	55%
E. Storage, Space and Conditions	Material handling practices are adequate	Inadequate for roll as state TBL facility; size allocated is much too small; inadequate regular cleaning performed No formal training in GWP has occurred; the implementation of patient kits would quickly overwhelm the available space in this store	62%
F. Organizational Support for Logistics System	Hospital management is satisfied with support from STBLCP	-Although organization support exist, it is very informal, non-documented, and sporadic - Supervisory visit rarely conducted	61%
G. Human Resources	Facility management is confident in their ability to assume responsibility as a State TBL store	HR training in health commodity storage poor; no pharmacist is present in the facility; unprepared for the additional burden of servicing LGAs	19%
H. Health and Safety	Generally good safety standards Adequate level of hygiene maintenance	Lighting is poor; area is dirty with cobwebs, and poorly ventilated; an inhospitable working environment	62%
I. Security	Adequate	Store is located within patient ward, which increases the risk of unauthorized proximity of patients and caregivers to TB commodities	82%

Objectives and Interventions: Niger State TBL Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: **Provide adequately sized and suitable conditioned warehouse space**	**3**	**3**				
Interventions Relocate State TBL store to be within State CMS premises Expand State store	3 1	2 1	-Space within State CMS or zonal TBL store may be available	- None - Funding from NTBLCP or possibly from National Hospital Management Board	- One additional staff at State CMS	6–12 months
Objective 2: **Improve logistics capacity of State TBL Store staff (Only if unable to relocate to State-CMS)**	**1**	**2**				
Interventions Provide Training in Drug Supply Management and Good Warehousing Practices	1	1	- Central Unit of NTBLCP - TB Cap	None		6 months
Objective 3: **Strengthen Inventory Control (Only if unable to relocate to the State CMS)**	**1**	**3**				
Interventions Implement LMIS and provide required training and supervision	2	2	- Central Unit of NTBLCP - TB Cap	Job tools and LMIS forms		Within 6 months

CMS Lagos TBL Unit Store

Warehouse Assessment Tool Questionnaire

Background Information

Date: 12/01/09 _____ (DD/MM/YY)

Facilitator(s):

Bravo Otohabru Head of Logistics Unit NTBLCP

Sharon Simpa Performance Improvement Advisor USAID | DELIVER PROJECT

Chris Warren Supply Chain Technical Advisor USAID | DELIVER PROJECT

Location: **Central Medical Stores – FMOH, Lagos, Lagos State, Nigeria** _____

Note taker(s): Bravo Otohabru, Chris Warren_____

Name of program: National Tuberculosis & Leprosy Control Program

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Zonal ❑ State

Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title		
Pharm. Linus Odoemene _	Chief Pharmacist FDS, FMOH	_____	_____
Dr Kingsley Nnalue _____	Senior Pharmacist FDS, FMOH		
Pharm. Oderindel_____	Senior Pharmacist FDS, FMOH	_____	_____
Pharm. Bolaji Rosiji_____	Principal Pharmacist FDS, FMOH	_____	_____

Note: The Federal Ministry of Health Federal Medical Store (also commonly referred to as CMS) receives health commodities and stores them until they are distributed within Nigeria. Commodities are procured by FMOH programs (including NTBLCP) and warehoused in separate buildings within much larger premises that encompasses a number of other vertical programs, such as HIV and AIDS and Expanded Programme on Immunization (EPI).

Warehouse Assessment Questionnaire Scoring Sheets Results: CMS Lagos TBL Store

Section	Key Strength	Key Weakness	Section Score
A. Receiving	Dedicated area for receiving that is clearly demarcated from stored commodities. Size of receiving area prevents few opportunities for congestion		100%
B. Pick. Pack and Dispatch	Orders can be processed quickly and with no backlog in receipts reported	No set operational procedure established for preparing orders of less-than-case quantities	40%
C. Distribution	This facility meets set schedules for shipping of commodities to zonal stores within defined time periods	Facility management is not informed via proof of delivery (POD) of receipts by zonal stores. Order assembly and transport is scheduled by central level and facility management not authorized to adjust workloads	56%
D. Inventory Control	Stock keeping records are current and properly filled out; expired commodities are segregated from general stocks	Substandard warehouse maintenance conditions compromises the ability to perform accurate physical inventory; no inventory list available	84%
E. Storage, Space and Conditions	Suitable condition to protect from adverse environmental conditions; shelves are used Adequate space available if obsolete inventory and damaged equipment removed	Warehousing practices were poor Shelving has collapsed; other shelving at risk of collapsing and damaging commodities or injuring staff Cleaning was absent; staff is not tasked with housekeeping	41%
F. Organizational Support for Logistics System	Established lines of communications to FMOH are functional; supervision from FMOH occurs	Facility does not initiate any regular contact with any zonal stores; slow internal process for obtaining permissions to dispose of expired material	51%
G. Human Resources	Management has received logistics training; adequate number of staff available	No training of low-level operational staff in logistics; job descriptions are unavailable; no formalized process exists for staff development	39%
H. Health and Safety		Limited safety measures in place; high risk of injury to personnel from collapsing shelving and exposure to medical sharps	30%
I. Security	Adequate internal lighting; measures are taken that minimize the exposure of commodities to potential theft	Exterior lighting not functioning	97%

Objectives and Interventions: CMS Lagos TBL Store

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 1: **Provide a facility with adequate storage and working space as well as structural components that will protect commodities from harmful environmental conditions**	**3**	**2**				
Interventions Install Incinerator already supplied to CMS Repair leaking ceiling in TB Unit Store Budget for annual maintenance of air conditioners Cut grass around perimeter of TBL Unit Store Trim back branches overhanging roof of store	2 2 1 3 3	3 1 2 2 2	- Donated incinerator awaiting installation - TBCAP and other partners	Budget for installation of incinerator		6–12 months
Objective 2: **Ensure the availability of timely and accurate data for decision-making**	**2**	**3**				
Interventions Reinforce use of SOP regarding LMIS Formally implement logistic warehouse monitoring activities to supervisory visits by FMOH headquarters (HQ) Have CMS contact zonal stores prior to the dispatching of orders to inform on deliver dates and any changes made to orders	3 2 2	3 3 2	- NTBLCP support - TBCAP and other partners			6–18 months

Objective	Priority Scale: 1=low 2=med. 3=high	Feasibility Scale: 1=low 2=med. 3=high	Available Resources	Identify necessary infrastructure and equipment improvements	Identify human resource requirements	Time Frame
Objective 3: Ensure proper warehousing of TBL commodities by storing them so that they are always available, accessible, in good condition and pose no risk of injury to workers	3	3				
Interventions Self Inspection and Supervisory warehouse visits by FMOH Remove existing hazardous collapsed shelving Separate expired laboratory reagents from medicines Advocate for permission to dispose of expired medical commodities	3 3 2 2	3 3 2 1	- TBCAP and other partners - NTBLCP	Collapsing shelving must be removed immediately	- Temporary labor to remove shelving - Identified person with time and ability to liaison with authorities	3 months
Objective 3: Ensure that Human Resources are qualified (and in sufficient quantity where necessary) to meet operational needs	2	2				
Interventions Provide staff with job descriptions and on the job training possible through the implementation of an internal training team	2	2	- TBCAP and other partners - NTBLCP			12 months

Site Visit Summary Scores

TB Warehousing Assessment Scoring Summary

	Location										
	North West	North Central	Niger State	Kaduna State	CMS	South West	North East	South South	South East	Oyo State	Average %
Section											
Receiving	73	100	40	94	100	56	33	94	94	50	73
Pick, Pack, Dispatch	93	60	40	80	40	100	35	90	90	60	69
Distribution	95	83	40	83	56	75	38	60	94	64	69
Inventory Control	78	89	55	74	84	44	16	96	91	40	67
Storage Space and Conditions	54	72	62	61	41	26	65	76	83	10	55
Organization Support for Logistics	72	45	61	60	51	30	42	54	56	18	49
Human Resources	56	38	19	33	39	47	30	97	100	42	50
Health & Safety	39	69	62	76	30	35	44	64	46	19	48
Security	100	84	82	80	97	56	40	59	100	31	73
Average %	73	71	51	71	60	52	38	77	84	37	

General Recommendations

From the most common general observations found at the warehouses visited, the assessment team developed general recommendations considered necessary for achieving GWP in all facilities storing TB supplies within the NTBLCP warehousing system. They are presented here, in order of priority, as determined by the team's common conclusions.

Priority Number One

Ensure the proper warehousing of TB commodities by storing them so that they are always available, accessible, in good condition, and pose no risk of injury to workers.

Although some general knowledge of good warehousing procedures was noted during all facility visits made by the assessment teams, the actual implementation varied significantly. The most significant interventions recommended to address this issue would be to implement the *General Storage Guidelines* from the NTBLCP SOPs. A review of these guidelines found that the fundamental actions to ensure that commodities are handled and stored in good condition are sufficiently addressed within the document. Formal implementation of the SOPs should be reinforced by including the review of warehousing logistics monitoring activities during supervisory visits by the FMOH headquarters (HQ) personnel, as well as self-inspection activities. These activities could be enhanced if a standardized checklist tool is used. The monitoring of inspection outcomes, over time, could then be used to track warehousing performance and be used as a guide for identifying strengths and weaknesses and possible future interventions.

With the understanding that a date for the formalized implementation of NTBLCP SOPs is not yet scheduled, some interventions should be immediately addressed throughout all warehouses to ensure good warehousing practices, indicated by the following:

- Use pallets for all products not stored on racking or shelving; store products away from walls and low enough to prevent crushing the lower cartons.
- Where necessary, to protect staff from injury and product from damage, procure trolleys, carts, stools, and ladders to facilitate the material handling of commodities.
- Remove material debris around the store premises, keep the perimeter grass cut, and remove branches that are presently overhanging some warehouses.
- Receiving activity should occur in an area separated from stock and that is free of clutter and debris, and is secure from unauthorized personnel.
- Label the bin locations.
- Install temperature measuring equipment. Implement their monitoring and recording by appointed staff within all stores to confirm that temperatures inside are below 25 degrees Celsius.
- Provide budgetary amounts for the maintenance of installed fire equipment; track the maintenance.

- Minimize the risk of personal injury to staff by providing safety boots for daily warehouse operations, as well as a supply of rubber gloves, aprons, and face shields for cleaning up spills or damage from laboratory-related commodities.
- Provide staff with training in health and safety, hazard awareness, and use of fire extinguishers; implement fire drills.

Priority Number Two

Ensure the availability of timely and accurate data for decision making.

Assessment teams agreed that there were significant inconsistencies between the visited facilities in the level of LMIS sophistication, utilization, awareness, and training. Some facilities struggled to complete stock cards, while others had independently implemented computerized stockkeeping. As a general intervention, facilities need to implement better tracking of stockkeeping, including the recording of expiration dates and batch numbers.

Giving facility management the ability (by authorizing and improving communications) to prioritize orders and shipping schedules will improve operational efficiencies and streamline the order fulfillment process. To support this, PODs should be used to confirm the receipt of the return to the sending facility, rather than to the central level. Communications to lower-level facilities of order and shipping changes should be a standard activity. A review of the roles and responsibilities of logistics positions and their levels of authority within the NTBLCP will support this intervention recommendation.

To improve the accuracy of data and facilitate its sharing with other levels within the NTBLCP, implementing a computerized warehouse management system (WMS) could be very beneficial at zonal levels, and certainly at the central-level TBL unit. Implementation at the state level is not recommended, but standardized inventory management and reporting at all levels should be done in order to yield usable information for decision making. To accomplish this, NTBLCP will need to emphasize and monitor the capturing of accurate data.

The NTBLCP has developed SOPs for operating the NTBLCP logistics system, including instructions and job aids for the following components of the LMIS:

- essential data items for logistics management
- logistics records
- reports
- logistics management information tools
- summary reporting and the reporting system
- feedback reports.

Unfortunately, this central-level initiative has not been formally implemented nationwide. To ensure the availability to NTBLCP of timely and accurate data for decision making, the TB warehouse assessment teams strongly advises that the SOPs be finalized and disseminated (with an associated training needs assessment) at all levels of the NTBLCP. However, before being finalized, key points raised during the TB warehousing assessment, and the subsequent TB program Logistics Indicator Assessment Tool (LIAT) and Logistics System Assessment Tool (LSAT), should be considered for inclusion. One such

recommendation from the TB warehousing assessment is to include performance indicators that monitor operations productivity, stock accuracy, and order fulfillment accuracy.

Priority Number Three

Ensure that human resources are qualified (and in sufficient quantity where necessary) to meet operational needs.

Providing training in drug supply management and GWPs will reinforce all the other objectives identified during the assessment. Once again, finalization, dissemination, and training on the NTBLCP SOPs are indicated as the most appropriate intervention to address many of the weaknesses identified. At a minimum, key warehouse personnel, in particular the most senior operations manager at each facility, should receive in-depth training in GWPs.

As previously identified, using performance indicators for monitoring productivity and accuracy will reinforce staff skill sets and identify areas where improvements can be made on an individual basis, as well as system-wide.

Prior to implementing the training above, a needs assessment of key logistics personnel should be conducted to identify knowledge gaps and to provide for, not just initial training, but also periodic re-training on a regular schedule. Involving facility staff as an internal training team in this activity would support self-inspection and will reinforce good warehousing practices. Complementary to this intervention would be to develop logistics personnel job descriptions that clearly indicate specific logistics task to be undertaken. An important position that was identified as missing from visited facilities was that of a dedicated store cleaner. It should be mentioned that all logistics positions should have some responsibility for maintaining the cleanliness and order of their respective work areas.

Where staffing levels are found to be legitimately inadequate, the assessment teams suggested the following interventions to address this issue:

- Redeploy existing staff and adjust work assignments where zonal or state TBL stores are located within the state CMS.
- Split one full-time staff position between a zonal store and state TBL stores.
- Modify job descriptions of warehouse/store clerical staff to include logistics activity responsibilities.

Priority Number Four

Provide facilities with adequate storage and working space, as well as infrastructure components, that will protect commodities from harmful environmental conditions.

CHAN, using funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFTAM) embarked on refurbishment works for the six zonal stores and the TBL unit of CMS. This resulted in structural repairs and maintenance; enhancements of the internal storage spaces, such as the addition of air-conditioners and painting; and additional physical security measures, such as main entrance doors and barred windows. CHAN interventions also included basic office maintenance and procurement of IT equipment for the CMS, filing cabinets, and shelves for some zonal stores. These activities, aimed at maintaining the national drugs and distribution system, were completed in the fourth quarter of the first phase of the project. However, no structural improvements have started at the CMS, and no repairs or refurbishments of state TBL stores are presently planned. In general, the work required to protect

commodities from harmful environmental conditions include some minor roof repairs, in some locations, and a general improvement of facility grounds-keeping. Repairs to toilet and water supplies should also be done. Although mechanical devices, such as air-conditioners and ceiling fans, are in place and functional in all facilities, assessment teams recommended that, as part of ongoing operational costs, amounts should be budgeted for their repair and maintenance.

The assessment teams agreed that the few state TBL stores visited were too small to function effectively, and that absorbing them into state CMSs premises should be considered. Additional assessments can examine the systematic possibilities of this option.

Recommendations Specific to CMS Lagos

Although the general observations note that poor material handling methods were observed throughout all facilities, the CMSs in Lagos have a serious problematic example of this. Here, the assessment team found collapsed and collapsing shelving inside the TB unit store and numerous needles and sharps on the grounds, the result of an inadequate disposal of medical waste. These conditions should be considered hazardous and posing a very high risk of injury to staff. It is recommended that actions be undertaken immediately to correct these dangerous conditions. The CMS Lagos TBL store requires significant assistance in implementing GWP, including temperature management, inventory control, security, health and safety, and personnel development.

Using a standardized checklist tool for supervisory visits and self-inspection, activities have already been suggested as interventions by the NTBLCP to ensure GWPs are in place throughout all facilities. At the CMS in Lagos, this tool could also be used by other USAID| DELIVER PROJECT–supported programs and their associated stores. The monitoring of inspection outcomes over time could then be used to track warehousing performance and used as a guide for identifying strengths and weaknesses and possible future interventions.

As a supplemental activity to the implementation of the warehousing checklist tool, we recommend a short-term TA to work directly with personnel of a selected facility within CMS to intensively implement GWP through a hands-on demonstration. This activity, to be provided by an advisor with experience in implementing GWP, would enable staff to move beyond the theoretical concepts and actually learn, participate, and see the immediate positive effects of implementing GWPs.

The TB unit store at CMS in Lagos was found to have a large supply of expired commodities that occupy a significant amount of warehousing space. Where space is available in the CMS stores, temporary storage of other program's commodities should not be a problem. This, in fact, displays agility, resourcefulness, and a good use of space. However, staff interviewed explained that administrative processes required to obtain permission to dispose of the commodities is quite complex and lengthy. The level of effort required is such that plans are being made to build another store just for warehouse commodities awaiting destruction. As a suggestion supplemental to the interventions identified in the TB warehousing assessment, there is a recommendation to dedicate human resources toward activities that support advocacy for permission to dispose of the expired medical commodities.

Even prior to obtaining the permission to destroy expired medicines, the incinerator that has been provided to CMS should be installed; staff should be trained in its operation and begin to use it. Performing a dejunking exercise in the TBL store and properly disposing of the waste produced in the new incinerator will reinforce GWP inside and will protect workers.

Action Plan

By developing general recommendations, key interventions were identified. These interventions were divided into short-, medium-, and long-term activities. Some activities will be repeated; they will occur in the action plan as recurring items.

Priority Number One

Ensure the proper warehousing of TB commodities by storing them so that they are always available, accessible, in good condition and pose no risk of injury to workers.	2009										2010											
	Q1		Q2		Q3			Q4			Q1			Q2			Q3			Q4		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Short Term																						
Disseminate NTBLCP SOPs (includes GWP components)	x	x																				
Include a review of warehousing practices during supervisory visits by FMOH HQ	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Reinforce the use of pallets to raise items off of the floor	x	x			x	x						x	x							x	x	
Remove collapsing shelving in CMS Lagos TB Unit Store		x																				
Separate expired laboratory reagents from medicines (CMS Lagos)		x																				
Medium Term																						
Train stafff on GWP components of NTBLCP SOPs			x					x	x								x	x				
Remove obsolete stock of other programs from space dedicated to TBL commodity storage (CMS Lagos)					x	x																
Procure Personal Protective Equipment (hard hats, safety boots) for warehouse operations				x						x												
Procure fire fighting equipment and train staff in its use				x						x												
Receiving activity should occur in an area separated from stock which is free of clutter, debris and secure from unauthorized personnel.				x	x																	
Where necessary procure trolleys, shelving, step stools/ladders, manual pallet jack-truck				x						x												
Develop warehouse monitoring and supervisory checklist						x	x															
Provide labeling for bin locations			x	x																		
Provide working tools for staff such as clipboards and calculators				x						x												
Procure Personal Protective Equipment (goggles, aprons, rubber gloves) for managing the clean up of damaged and leaking commodities				x						x												
Long Term																						
Implement the use of files and filing cabinets for warehousing record keeping							x				x				x				x			
Implement warehouse practices checklist to be used for supervisory visits, self inspections and performance monitoring						x					x	x										
Advocate for faster decision making in regards to the disposal of expired medical commodities (CMS Lagos)					x		x		x													

Priority Number Two

Ensure the availability of timely and accurate data for decision-making.	2009										2010											
	Q1		Q2		Q3			Q4			Q1			Q2			Q3			Q4		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Short Term																						
Supply outstanding computer hardware	x	x																				
Begin to record losses / adjustments, batch numbers and expiration dates on bin / stock cards	x	x	x	x																		
Verify adjustments and follow-up stock losses	x	x	x	x																		
Medium Term																						
Select and Supply LMIS software				x	x																	
Provide software/hardware training for selected LMIS software						x	x				x	x										
Provide training in LMIS component of SOPs				x	x					x	x											
Print, distribute and mandate the usage of NTBLCP LMIS forms				x	x					x	x											
Print, distribute and mandate the use standard format stock cards				x	x					x	x											
Implement the use of files and filing cabinets for warehousing record keeping				x																		
Long Term																						
Increase communication between program levels to enhance distribution planning and execution						x	x							x	x							
Apply any software solution to NTBLCP SOP and adapt SOPs to software if necessary							x	x	x	x												

Priority Number Three

Ensure that Human Resources are qualified (and in sufficient quantity where necessary) to meet operational needs.	2009										2010											
	Q1		Q2		Q3			Q4			Q1			Q2			Q3			Q4		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Short Term																						
Engage designated personnel to keep the store clean all the time	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Train personnel on GWP components of NTBLCP SOPs		x						x											x			
Medium Term																						
Provide security personnel to control movement in and out of warehouse premises				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Train staff in fire safety procedures and use of fire safety equipment					x	x																
Train staff on workplace hazard identification					x	x																
Where individual warehouse assessments indicate a need for additional HR, adjust staffing levels as necessary							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Develop monitoring protocol to review logistics activities and provide on-the-job training						x	x															
Increase Supervisory activity from Central level to monitor HR needs			x					x					x					x				
Provide staff with job descriptions that details logistics activities and responsibilities				x	x																	
Long Term																						
Identify knowledge gaps and make provision for training and re-training on a regular schedule						x						x						x				
Provide on the job training through the implementation of internal training teams					x					x					x					x		
Implement monitoring protocol and conduct regular supportive supervisory visits to review logistics activities and provide on-the-job training						x	x							x	x							x

Priority Number Four

Provide facilities with adequate storage and working space as well as infrastructure components that will protect commodities from harmful environmental conditions.	2009										2010											
	Q1		Q2		Q3			Q4			Q1			Q2			Q3			Q4		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Short Term																						
Cut grass around perimeter of warehouses where necessary	x	x	x	x	x								x	x	x	x	x					
Remove dirt and debris around warehouses and cut grass where necessary	x	x					x	x					x	x					x	x		
Provide running water in those facilities currently without	x	x																				
Medium Term																						
Complete CHAN refurbishment activities			x	x																		
Insure that adequate temperature control devices are installed and temperature is monitored									x	x												
Provide alternative power supply etc generator and Install air conditioners where necessary									x	x												
Install Incinerator already supplied to CMS Lagos							x															
Address infrstructure maintenance/repair issues in all facilities				x	x	x																
Equip warehouses with steel shelves to protect delicate items and stock when handling from open cases					x	x																
Provide adequate toilet facilities in those facilities currently without			x	x																		
Long Term																						
Budget for annual maintenance of air conditioners in all facilities									x	x											x	x
Consider relocating/absorbing smaller state TBL stores into State CMS									x	x												

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Appendix I

Stakeholder Meetings Participants

Name	Title	Institution
ABUJA		
Dr Njepuome A.N.	Head TB/HIV	FMOH
Abu Ugbede	Pharm. Commodities Log. Mgr.	USAID
Dr Kabir	National Coordinator NTBLCP	NTBLCP/FMOH
Dr Aboje S.A.	Deputy Director NTBLCP	NTBLCP/FMOH
Pharm. Bravo Otohabru	Logistic Officer	NTBLCP/FMOH
Pharm. Ekpeno Akpanowo	Pharmacist	NTBLCP/FMOH
Mohammed B.G.	Prin. Admin. Officer	NTBLCP/FMOH
Yusufu Bilbis I.	S.O.I.	NTBLCP/FMOH
Bashir Ahmad	Pharmacy Technician	NTBLCP/FMOH
Fohotnan Makah	Pro & Supply Officer	CHAN
Nongomin Ter Joshua	Senior Internal Auditor	CHAN
Dr Eneng Oyama	NPO-TBCAP	WHO-TBCAP
Joseph Jiyah	Senior Pharmacist	FMOH
Chris Wright	Director System Strengthening	USAID|DELIVER PROJECT
Chris Warren	Technical Advisor	USAID|DELIVER PROJECT
Sharon Simpa	Performance Improvement Advisor	USAID|DELIVER PROJECT
Austin Omiunu	M&E Advisor	USAID|DELIVER PROJECT
MINNA AND KADUNA		
M.A. Lambata	Niger State TBL Control Officer	Niger State MOH
Mary Jimoh	Pharmacist In-Charge North Central TBL Zonal Store	Niger State MOH
Aduma Abdullah	In-Charge Niger State Leprosy Cent	Niger State MOH
M.M Suleiman	Pharmacist In-Charge Niger State CMS	Niger State MOH
Zainab Salihu	Senior Pharmacist Niger State CMS	Niger State MOH
Abdullah Bello	Deputy Director Primary health Care	Niger State MOH
Mr. Aliyu	Director Pharmaceutical Services	Niger State MOH
A. Ndegi Moh'd	Deputy Director Pharmaceutical Services	Niger State MOH
David Young	Pharmacist In-Charge	Niger State MOH

Name	Title	Institution
Dr. Gajere	State TBL Control Officer	Kaduna STBLCP
Emmanuel Gambo	Deputy State TBL Control Officer / State TBL Store Officer	Kaduna STBLCP
E. Gaiya	Deputy Director Pharmaceutical Services	Kaduna State MOH
Magdalene Yayock	Zonal Store Officer	Kaduna State MOH
Ahmed S.D. (Mrs)	Director Pharmaceutical Services	Kaduna State MOH
Dr. Yari Peter	Honorable Commissioner of Health	Kaduna State MOH
	Deputy Director In Charge – State Central Medical Store	Kaduna State MOH
BAUCHI AND IBADAN		
Pharm. Galadi Abdulkadri	Zonal Pharmacist	Bauchi STBLCP
Nasir Baba	Store Officer	Bauchi STBLCP
Dr M.A. Husseine	Permanent Secretary	Bauchi State MOH
Pharm. Akinwande	Zonal Pharmacist for NTBLCP	Oyo STBLCP
Kola Adegboola	Zonal Store Officer	Oyo STBLCP
Akeem Badmus	Store Assistant	Oyo STBLCP
Dr Lawal	Oyo State Control Officer	Oyo STBLCP
Ajagbe S.O.	State TBL Supervisor	Oyo STBLCP
Babatunde S.O	State TBL Supervisor	Oyo STBLCP
Shittu M.A.	Store Officer	Oyo STBLCP
Pharm. Ayandeyi J.A.	Deputy Director Pharmaceutical Services	Oyo State MOH
Pharm. Adetoro M.O.	Director Pharmaceutical Services	Oyo State MOH
Dr Bello B.V.	Permanent Secretary	Oyo State MOH
ENUGU AND PORTHARCOURT		
Pharm. Martins Ositadinma	Zonal pharmacist In-charge	Enugu, MOH
Pharm. Demua Baritoa	Zonal pharmacist In-charge	Port Harcourt, MOH
Dr Agborubere	State TB Coordinator	Port Harcourt, MOH
CENTRAL MEDICAL STORES (CMS), LAGOS		
Omoyele O.O.	Deputy Director Pharmaceutical Services	FDS, FMOH
Ashafa I.C.	Deputy Director Pharmaceutical Services	FDS, FMOH
Pharm. Linus Odoemene	Chief Pharmacist	FDS, FMOH
Dr Kingsley Nnalue	Senior Pharmacist	FDS, FMOH
Pharm. Oderinde L.	Senior Pharmacist	FDS, FMOH
Pharm. Bolaji Rosiji	Pharmacist I	FDS, FMOH
Kazim T.	Principal Pharmacist	FDS, FMOH
Ndubisi Ekeleme	Clerical Assistant Officer	FDS, FMOH
Oyom G.O.	Clerical Assistant Officer	FDS, FMOH
Akintoye O.	Chief Store Officer	FDS, FMOH
Mathew Idemudia	Chief Store Keeper	FDS, FMOH

Name	Title	Institution
Akinlade C.	Store Keeper	FDS, FMOH
Ariyo A.	Store Keeper	FDS, FMOH
Young Orubibi S.	Clerical Officer I	FDS, FMOH
Adeshina Sadiat	Clerical Officer	FDS, FMOH
Otukoya J.F.	Secretary	FDS, FMOH
Kafidupe A.	Senior Typist	FDS, FMOH
Ilesanmi A.	Senior Typist	FDS, FMOH

Appendix 2

Stakeholder Debriefing Participants

Name	Title	Institution	Contact
Dr. Ngozi Njepoume	Head of Department (HOD) TB/HIV	FMOH	ngonjep@yahoo.com
Elizabeth Igharo	HOD TB/HIV	USAID | DELIVER PROJECT	elizabeth_igharo@ng.jsi.com
Emmy Vander Grinten	Country Rep	TBCAP	vandergrintene@kncvtbc.nl
Dr. M. Kabir	National Coordinator	NTBLCP	mkabir@hotmail.com
Suzy Sacher	Program Officer	USAID | DELIVER PROJECT	ssacher@jsi.com
Disha Ali	Research & Evaluation Advisor	USAID | DELIVER PROJECT	dali@jsi.com
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Mr. G.T Ojika	Focal Person (Lab)	NTBLCP	ojikagt@yahoo.com
Mr. Abdulahi Idris	HIV Officer	NASCP	ahbabs@yahoo.com
Elina Sverdlova	Logistics Advisor	USAID	esverdlova@usaid.gov
Abu Ugbede	Logistics Manager	USAID	uabu@usaid.gov
Dr. Temitayo Odusote	Program Mgr. TB	USAID	todusote@usaid.gov
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Chris Wright	Director Systems Strengthening	USAID | DELIVER PROJECT	cwright@jsi.com
Ekpeno Akpanowo	Pharmacist	FMOH	ekpenoh@yahoo.com
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Dr Aboje S.A	Deputy Director	NTBLCP	saboje@yahoo.com
Mohammed B.G	PAO	NTBLCP	mbaidigaji@yahoo.com
Yusuf Bilbis I.	Senior Officer	FMOH	yidrisbilbis@yahoo.com
Chris Warren	Supply Chain Technical Advisor	USAID | DELIVER PROJECT	cwarren@jsi.com

Appendix 3

Schedule for Nigeria TB Warehousing Assessment, January 09

January 2009						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
5 -USAID | DELIVER PROJECT briefing -NTBLCP Stakeholder Meeting -Warehouse Assessment Tool orientation with – 3 teams of 3 persons each	6 -Teams Travel to zones Zonal Warehouse Visit -Team 2 – Bauchi	7 -Zonal Warehouse Visit -Team 1 – Minna -Team 3 - Enugu	8 -Zonal Warehouse Visit -Team 1 – Kaduna -Team 2 – Ibadan -Team 3 – Port Harcourt	9 -Warehouse Assessment - data compilation - objectives and intervention development	10 -Zonal Warehouse - Assessment debriefing drafting	11 - CMS assessment team travel to Lagos
12 -CMS Warehouse Assessment - Lagos	13 -CMS Warehouse Assessment – Lagos	14 -CMS Warehouse Assessment team return to Abuja - CMS Warehouse assessment debriefing drafting	15 All Warehouse Assessment teams final meeting to review draft proposal and debriefing presentations CMS Assessment review with USAID| DELIVER PROJECT	16 Debriefing with NTBLCP Debriefing with LSAT/LIAT Technical Advisors Debriefing with USAID| DELIVER PROJECT	17 Depart Nigeria	

Appendix 4

Warehouse Assessment Tool Questionnaire

Warehouse Assessment Tool Questionnaire

Background Information

Date: _____ (DD/MM/YY)

Facilitator(s): _____

_____

_____

Country: _____

Notetaker: _____

Name of program: _____

Type of program: ❑ Government ❑ NGO ❑ Social marketing ❑ Private

❑ Other (specify): _____

Level visited: ❑ Central ❑ Regional ❑ District

❑ Service delivery point ❑ Other _____

List the name and title of participants:

Name	Title	Name	Title

SECTION A: Receiving		Score	Maximum Score
A1. Are warehouse receiving operating procedures current and on file?	❑ Yes ❑ No		**0.50**
A2. Are receiving documents available at time shipment is received?	❑ Yes ❑ No		**1**
A3. Are receiving reports being processed?	❑ Yes ❑ No		**0.25**
A4. Is management informed of any abnormal backlogs of unprocessed receipts?	❑ Yes ❑ No		**1**
A5. Are items checked for description, quantity and condition at the arrival of shipment & before accepting the bill of lading and completing the receiving report?	❑ Yes ❑ No		**1**
A6. Are productivity measurements used to measure receiving productivity?	❑ Yes ❑ No		**0.25**
TOTAL			**4**
SCORE FOR THE SECTION			**100%**

Score for the section = the total score/maximum total score × 100

STRENGTHS	WEAKNESSES

SECTION A: Receiving	Score	Maximum Score
HIGHLIGHTS		

SECTION B: Picking, Packing and Dispatch		Score	Maximum Score
B1. Are orders tracked throughout the fulfillment process and integrated into other systems?	❑ Yes ❑ No		**1**
B2. Are orders sorted according to priorities and resource availability?	❑ Yes ❑ No		**1**
B3. Is packaging material available and used?	❑ Yes ❑ No		**0.25**
B4. Tables are provided for staff to use when assembling and packing shipments?	❑ Yes ❑ No		**0.25**
B5. Are orders received in sufficient detail to readily identify the material that is to be shipped?	❑ Yes ❑ No		**1**
B6. Are orders being handled promptly by the picker? (No backlog)	❑ Yes ❑ No		**1**
B7. Are productivity measurements (Units per person hour, picking lines per hour / day, turnaround time) used?	❑ Yes ❑ No		**0.25**
B8. Is order accuracy tracked?	❑ Yes ❑ No		**0.25**
TOTAL			**5**
SCORE FOR THE SECTION			**100%**
Score for the section = the total score/maximum total score × 100			

SECTION B: Picking, Packing and Dispatch	Score	Maximum Score

STRENGTHS	WEAKNESSES

HIGHLIGHTS

SECTION C: Distribution		Score	Maximum Score
C1. Is there a documented distribution schedule?	❑ Yes ❑ No		**0.25**
C2. In general, are orders delivered as scheduled to lower level facilities	❑ Yes ❑ No		**1**
C3. Is delivery scheduled by the warehouse?	❑ Yes ❑ No		**0.25**
C4. Is routing determined by warehouse staff?	❑ Yes ❑ No		**0.25**
C5. Are shipments reconciled with the orders?	❑ Yes ❑ No		**1**
C6. If a delay in receipt is reported is there a mechanism to track its status?	❑ Yes ❑ No		**1**
C7. Is there a record of PODs kept?	❑ Yes ❑ No		**1**
C8. Consignees know of pending receipts?	❑ Yes ❑ No		**1**
C9. Are outbound shipments properly manifested?	❑ Yes ❑ No		**1**
C10. Are waybills reconciled from other facilities	❑ Yes ❑ No		**0.25**
C11. Do the majority of orders meet the promised delivery date?	❑ Yes ❑ No		**1**

SECTION C: Distribution	Score	Maximum Score
TOTAL		**8**
SCORE FOR THE SECTION		**100%**

Score for the section = the total score/maximum total score × 100

STRENGTHS	WEAKNESSES

HIGHLIGHTS

SECTION D: Inventory Control		Score	Maximum Score
D1. Do Stock Keeping Records (Stock Cards, Bin Cards, WMS) include:			
a. products name/description	❑ Yes ❑ No		**1**
b. stock on hand	❑ Yes ❑ No		**1**
d. requisition and issue records	❑ Yes ❑ No		**1**
e. losses and adjustments	❑ Yes ❑ No		**1**
f. closing/ending balance	❑ Yes ❑ No		**1**
g. transaction reference	❑ Yes ❑ No		**1**
D2. Can management confirm that stock moves are valid, authorized and properly executed	❑ Yes ❑ No		**1**
D3. Is the accuracy of data input from other systems (Stock control) confirmed?	❑ Yes ❑ No		**0.25**

SECTION D: Inventory Control		Score	Maximum Score
D4. Is a list of stock items maintained?	❑ Yes ❑ No		**0.25**
D5. Is the receipts area separated from the storage area?	❑ Yes ❑ No		**1**
D6. Is there a recall procedure in place?	❑ Yes ❑ No		**0.25**
D7. Is the stock area is divided into zones for easy location of different products?	❑ Yes ❑ No		**0.5**
D8. Are there specific procedures in place for the reception, storage and shipping of controlled substances?	❑ Yes ❑ No		**1**
D9. Are goods (especially hazardous materials) stored safely and in accordance with established regulations and good practice?	❑ Yes ❑ No		**1**
D10. Does the warehouse conduct at least one physical inventory of all products every year?	❑ Yes ❑ No		**1**
D11. Are stock cards up to date and completed?	❑ Yes ❑ No		**1**
D12. Are adjustment on stock cards verified	❑ Yes ❑ No		**1**
D13. Are spot checks conducted to determine the location of the material as reflected on the stock records?	❑ Yes ❑ No		**0.5**
D14. Are the stock/bin records reflecting expiration and lot information?	❑ Yes ❑ No		**1**
D15. Is their a documented procedure in place to be used when discrepancies exist?	❑ Yes ❑ No		**0.25**
D16. Is a min-max system used for inventory management?	❑ Yes ❑ No		**1**
D17. Is inventory data passed to higher authority?	❑ Yes ❑ No		**0.5**
D18. Are returns managed under a standard procedure?	❑ Yes ❑ No		**0.5**
D19. Are commodities with broken seals, damaged packaging withdrawn from stock, and if not destroyed stored separately?	❑ Yes ❑ No		**1**
D20. Are fast moving items accurately identified and conveniently located?	❑ Yes ❑ No		**0.25**
D21. Is there a computer with printer, UPS, etc. in working condition with a trained operator in use to manage stock?	❑ Yes ❑ No		**0.5**

SECTION D: Inventory Control		Score	Maximum Score
D22. Are there written provisions for the redistribution of overstocked supplies?	❑ Yes ❑ No		**0.25**
D23. In practice, does the warehouse manage and issue stock according to FEFO inventory control procedures at all levels?	❑ Yes ❑ No		**1**
D24. Is inventory accuracy tracked?	❑ Yes ❑ No		**0.5**
TOTAL			**21**
SCORE FOR THE SECTION			**100%**

Score for the section = the total score/maximum total score × 100

STRENGTHS	WEAKNESSES

HIGHLIGHTS

SECTION E: Storage Space and Conditions			
E1. Is sufficient storage space available and the layout of storage facilities suitable to meet operational needs?	❑ Yes ❑ No		**1**
E2. Is there a functioning back-up genset?	❑ Yes ❑ No		**0.5**
E3. Operational Electricity on day of visit?	❑ Yes ❑ No		**0.5**
E4. Operational Water on day of visit?	❑ Yes ❑ No		**0.5**
E5. Operational phone on day of visit?	❑ Yes ❑ No		**0.5**

SECTION E: Storage Space and Conditions			
E6. Are appropriate environmental conditions (i.e. air conditioning, humidity, and temperature) provided and maintained at the required level?	❑ Yes ❑ No		**1**
E7. Is the efficiency/effectiveness of the storage facility enhanced with appropriate handling devices such as trolleys, pallets & forklifts?	❑ Yes ❑ No		**1**
E8. Are all goods adequately protected from damage, deterioration and loss?	❑ Yes ❑ No		**1**
E9. Are optimum warehouse locations utilized to maximize efficiency?	❑ Yes ❑ No		**0.5**
E10. Are commodities adequately and securely stored in order to facilitate their prompt identification?	❑ Yes ❑ No		**1**
E11. Are large quantities of flammables (acetone, ether, alcohol) stored separately from main store room?	❑ Yes ❑ No		**1**
E12. Are large quantities of corrosives (acids, ammonia solutions) stored separately from main store room?	❑ Yes ❑ No		**1**
E13. Products ready for distribution are arranged so that labels and expiry dates are visible?	❑ Yes ❑ No		**0.5**
E14. Cartons and products are in good condition and not crushed due to mishandling or poor stacking.	❑ Yes ❑ No		**1**
E15. The facility makes it a practice to separate damaged and/or expired products from usable products?	❑ Yes ❑ No		**1**
E16. Products are protected from direct sunlight.	❑ Yes ❑ No		**1**
E17. Cartons and products are protected from water and humidity.	❑ Yes ❑ No		**1**
E18. Storage area is visually free from harmful insects and rodents.	❑ Yes ❑ No		**1**
E19. Products are stored at the appropriate temperature according to product temperature specifications.	❑ Yes ❑ No		**1**

SECTION E: Storage Space and Conditions			
E20. Storeroom is maintained in good condition (clean, all trash removed, sturdy shelves, organized boxes).	❑ Yes ❑ No		**1**
E21. A schedule and instructions for cleaning the storeroom exists?	❑ Yes ❑ No		**0.5**
E22. Fire safety equipment is available and accessible?.	❑ Yes ❑ No		**1**
E23. Products are stored separately from insecticides and chemicals.	❑ Yes ❑ No		**1**
E24. Are temperature charts utilized?	❑ Yes ❑ No		**1**
E25. Products are stacked at least 10 cm off the floor.	❑ Yes ❑ No		**1**
E26. Products are stacked at least 30 cm away from the walls and other stacks.	❑ Yes ❑ No		**1**
E27. Products are stacked no more than 2.5 meters high.	❑ Yes ❑ No		**1**
E28. Are there written guidelines for disposal of medical waste?	❑ Yes ❑ No		**0.25**
E29. Does the building have a dedicated storeroom for high value items?	❑ Yes ❑ No		**1**
E30. Are the storage locations identified to enable the prompt location of stock?	❑ Yes ❑ No		**0.25**
E31. Have management provided some spare storage capacity for expansion?	❑ Yes ❑ No		**0.25**
E32. Is equipment to maintain specific temperatures operational?	❑ Yes ❑ No		**0.5**
E33. Does the storeroom have storage equipment (racks, shelves)?	❑ Yes ❑ No		**0.25**
E34. Are windows in good condition?	❑ Yes ❑ No		**0.25**
E35. Is the storage equipment in good condition?	❑ Yes ❑ No		**0.5**
E36. Is the storage equipment sufficient?	❑ Yes ❑ No		**0.5**
E37. Does the store adequately utilize pallets?	❑ Yes ❑ No		**0.25**
E38. Is the store well lit?	❑ Yes ❑ No		**0.5**
E39. Are tree branches overhanging the roof cut back?	❑ Yes ❑ No		**0.25**

SECTION E: Storage Space and Conditions			
E40. Is management aware of the future storage capacity requirements?	❑ Yes ❑ No		**0.5**
E41. Are delicate items adequately protected during storage and handling?	❑ Yes ❑ No		**0.5**
E42. The appropriate use of automation and space is not compromised by congestion?	❑ Yes ❑ No		**1**
E43. Are there no cracks or crevices in walls or floors?	❑ Yes ❑ No		**0.25**
E44. Is there no indication that gutters or downspouts are clogged?	❑ Yes ❑ No		**0.25**
E45. Is there no evidence of hydraulic oil leaks from any fork lifts?	❑ Yes ❑ No		**0.25**
TOTAL			**31**
SCORE FOR THE SECTION			**100%**

Score for the section = the total score/maximum total score × 100

STRENGTHS	WEAKNESSES

HIGHLIGHTS

SECTION F: HUMAN RESOURCES		Score	Maximum Score
F1. Does the warehouse have a logistics management unit?	❑ Yes ❑ No		**1**
If no, please check no in question 2 a–e			
F2. Is the logistics management unit fully responsible for the following activities:			
a. managing and using the logistics management information system?	❑ Yes ❑ No		**0.25**
b. inventory management, storage, and distribution?	❑ Yes ❑ No		**0.25**
C staffing of logistics positions?	❑ Yes ❑ No		**0.25**
D budgeting for the logistics system?	❑ Yes ❑ No		**0.25**
e supervision and logistic staff development?	❑ Yes ❑ No		**0.25**
F3. Are there documented guidelines for:			
a. managing and using the logistics management information system?	❑ Yes ❑ No		**0.25**
d. inventory management, storage, handling and distribution?	❑ Yes ❑ No		**0.25**
f. staffing of logistics positions?	❑ Yes ❑ No		**0.25**
g. budgeting for the logistics system?	❑ Yes ❑ No		**0.25**
h. supervision and staff development?	❑ Yes ❑ No		**0.25**
F4. Is there a full-time logistics officer/warehouse manager/store keeper in-charge?	❑ Yes ❑ No		**1**
F5. Does the logistics officer(s)-in-charge have the same level of authority for decision making as other functional unit heads?	❑ Yes ❑ No		**1**
F6. If a staff member's performance in logistics is not satisfactory, is the person provided with:			
a. in-service training?	❑ Yes ❑ No		**0.25**

SECTION F: HUMAN RESOURCES		Score	Maximum Score
b. on-the-job training?	❑ Yes ❑ No		0.25
c. written instructions on how to improve?	❑ Yes ❑ No		0.25
F7. Does the program conduct periodic staff development activities (e.g., classroom training, coaching, on-the-job training, etc.)?	❑ Yes ❑ No		1
F8. Has training been given to current staff at all appropriate levels in the following areas:			
a. completion and submission of LMIS reports?	❑ Yes ❑ No		0.25
b. proper storage of health products?	❑ Yes ❑ No		0.25
c. reviewing reports and records?	❑ Yes ❑ No		0.25
F9. Is adequate staff provided to meet the operational demands of the organization?	❑ Yes ❑ No		1
F10. Do staff have a written job description that includes logistics responsibilities?	❑ Yes ❑ No		1
F11. Is there a process for improving any gaps in the knowledge and skills of logistics personnel at the following levels?	❑ Yes ❑ No		1
F12. Can management be sure that regulations and legislation are being complied with?	❑ Yes ❑ No		1
F13. What activities are used to coordinate key logistics tasks among those responsible for logistics?			
none	❑ Yes ❑ No		0
formal meetings	❑ Yes ❑ No		0.25
joint work plans	❑ Yes ❑ No		0.25
written communications	❑ Yes ❑ No		0.25
department meetings	❑ Yes ❑ No		0.25
F16. Is staff appropriately trained in the handling of goods in order to avoid damage to the goods and injury to staff?	❑ Yes ❑ No		1
F17. Do logistics staff has the tools and resources they need to do their jobs? (e.g., job aids, forms, carbon paper, calculators, shelving, vehicles, funds for transport, etc.)?	❑ Yes ❑ No		1

SECTION F: HUMAN RESOURCES		Score	Maximum Score
F18. Are Personnel trained in relation to the duties assigned to them?	❑ Yes ❑ No		**0.25**
F18. Are training sessions recorded?	❑ Yes ❑ No		**0.25**
F19. Have specific responsibilities for the warehouse operation been allocated to specific staff?	❑ Yes ❑ No		**0.25**
F19. Does facility level management know the turnover rate for warehouse employees?	❑ Yes ❑ No		**0.25**
TOTAL			**16**
SCORE FOR THE SECTION			**100%**

SCORE FOR THE SECTION = TOTAL SCORE/MAXIMUM TOTAL SCORE* × 100

STRENGTHS	WEAKNESSES

HIGHLIGHTS

SECTION G: Organizational Support for Logistics Systems		Score	Maximum Score
G1. How often do personnel at the following levels communicate? *for never; score .25 for any other response*			*Score 0*
a. This level of logistics staff to next level above staff?	❑ Never ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Annually		**0.25**
b. This level of staff to next level below staff?	❑ Never ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Annually		**0.25**
G2. Does the program's budget include line items for:			
a. warehousing/storage?	❑ Yes ❑ No		**0.5**
b. logistics management information system?	❑ Yes ❑ No		**0.5**
c. transportation?	❑ Yes ❑ No		**0.5**
d. logistics staff development?	❑ Yes ❑ No		**0.5**
e. salaries for logistics staff?	❑ Yes ❑ No		**0.5**
f. waste management?	❑ Yes ❑ No		**0.5**
G3. Are tools available that describe what to cover when conducting a supervisory visit?	❑ Yes ❑ No		**0.25**
G4. Are clients informed of changes adjustments made to requested quantities in their orders?	❑ Yes ❑ No		**0.5**
G5. Are supervisory visits conducted by staff from higher levels to examine logistics activities?	❑ Yes ❑ No		**1**
G6. Is there a documented schedule for supervision?	❑ Yes ❑ No		**0.25**
G7. In emergencies, can lower level facilities communicate replenishment requirements?	❑ Yes ❑ No		**0.5**
G8. Do the following types of activities take place during the supervisory visits?			
a. observe product storage?	❑ Yes ❑ No		**0.25**
b. conduct physical inventory?	❑ Yes ❑ No		**0.25**
c. review of logistics records and reports?	❑ Yes ❑ No		**0.25**
d. discuss budgeting for logistics activities?	❑ Yes ❑ No		**0.25**

SECTION G: Organizational Support for Logistics Systems		Score	Maximum Score
e. review changes made since last supervisory visit?	❑ Yes ❑ No		0.25
h. on-the-job training to improve job performance?	❑ Yes ❑ No		0.25
i. discuss what is/is not working?	❑ Yes ❑ No		0.5
G9. Do procurement plans take into account the following logistics system elements:			
a. current inventory levels (stock on hand)?	❑ Yes ❑ No		0.25
b. established stock levels, if relevant (i.e., maximum and minimum levels)?	❑ Yes ❑ No		1
c. shipment and handling schedules?	❑ Yes ❑ No		0.25
d. need for safety stock?	❑ Yes ❑ No		0.25

G10. What feedback mechanisms are in place to channel logistics information back to other levels?
If (a) then score 0; .25 for any other response.

a. none	❑ Yes ❑ No		0
b. telephone call	❑ Yes ❑ No		0.25
c. reports	❑ Yes ❑ No		0.25
d. meetings	❑ Yes ❑ No		0.25
e. supervisory visit	❑ Yes ❑ No		0.25
Is there a procedure for recording and reporting complaints about product quality to suppliers?	❑ Yes ❑ No		0.25
TOTAL			11
SCORE FOR THE SECTION			100%

Score for the section = the total score/maximum total score × 100

STRENGTHS	WEAKNESSES

SECTION G: Organizational Support for Logistics Systems	Score	Maximum Score
HIGHLIGHTS		

SECTION H: HEALTH AND SAFETY		Score	Maximum Score
H1. Is the waste disposal area clean. No waste needs to be placed in covered containers; no containers need emptying?	❑ Yes ❑ No		**1**
H2. Are there no stagnant pools of water anywhere on the property?	❑ Yes ❑ No		**0.25**
H3. Do pallets stacked outside not require destruction or restacking?	❑ Yes ❑ No		**0.5**
H4. Is the perimeter grass well maintained?	❑ Yes ❑ No		**0.25**
H5. Are paved areas in good condition?	❑ Yes ❑ No		**0.25**
H6. A stocked first aid kit is available?	❑ Yes ❑ No		**0.5**
H7. Are sufficient and adequate facilities provided for moving heavy items, and is staff aware of the correct use of such facilities?	❑ Yes ❑ No		**1**
H8. Emergency exits are clearly marked?	❑ Yes ❑ No		**0.5**
H9. Are fire drills conducted every six months?	❑ Yes ❑ No		**0.5**

SECTION H: HEALTH AND SAFETY		Score	Maximum Score
H10. Is there sufficient space between storage locations for safe access, the use of handling equipment, and building evacuation?	❑ Yes ❑ No		1
H11. Have management provided adequate and suitable protective equipment to staff?	❑ Yes ❑ No		1
H12. Does staff have access to safe drinking water supply?	❑ Yes ❑ No		1
H13. Does staff have access to clean toilet facilities?	❑ Yes ❑ No		1
H14. Are storage racks in good condition?	❑ Yes ❑ No		0.5
H15. Windows do not require washing?	❑ Yes ❑ No		0.25
H16. There is no trash which should be removed from the warehouse?	❑ Yes ❑ No		0.5
H17. Do any floors appear to be recently swept or scrubbed?	❑ Yes ❑ No		0.5
H18. No bins, shelves, or closets need to be cleaned?	❑ Yes ❑ No		0.5
H19. No personnel, loading dock, doors blocked?	❑ Yes ❑ No		1
H20. No toilet or hand washing facilities need repair, cleaning, or supplies?	❑ Yes ❑ No		1
H21. Are storage areas well lit for safely?	❑ Yes ❑ No		0.5
TOTAL			13
SCORE FOR THE SECTION			100%
Score for the section = the total score/maximum total score × 100**			

STRENGTHS	WEAKNESSES

HIGHLIGHTS

SECTION I: Security		Score	Maximum Score
I1. Is access limited to only designated staff?	❑ Yes ❑ No		0.25
I2. Is the store secured with a lock and key but accessible during normal working hours?	❑ Yes ❑ No		1
I3. Is access controlled by fencing / walls?	❑ Yes ❑ No		0.25
I4. Is smoking is prohibited in the store?	❑ Yes ❑ No		0.5
I5. Are there security bars on windows?	❑ Yes ❑ No		0.25
I6. Are physical and other security measures in place to protect goods and personnel?	❑ Yes ❑ No		1
I7. Is a security company contracted to guard the warehouse premises?	❑ Yes ❑ No		1
I8. Are visitors escorted by staff members while on the premises?	❑ Yes ❑ No		1
I9. Can management be assured that all stocks are adequately protected from theft?	❑ Yes ❑ No		1

SECTION I: Security		Score	Maximum Score
I10. Are storage areas well lit for security?	❑ Yes ❑ No		0.25
I11. Are measures to prevent staff pilferage of stock items in place?	❑ Yes ❑ No		1
TOTAL			8
SCORE FOR THE SECTION			100%
Score for the section = the total score/maximum total score × 100			

STRENGTHS	WEAKNESSES

HIGHLIGHTS

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

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