Welcome to the NNN Conference 2020

Accelerating to 2030: Building Resilient NTD Programmes in a Changing World

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Virtual Event

8th – 10th September 2020

Billy Weeks (2016, Chikwawa, Malawi)
4.4. The End to End Supply Chain: Working Together Towards a Successful Supply Chain Strategy to beat NTDs

September 10, 2020

- Cassandra Holloway, Children Without Worms | TFGH
- Dr Afework Tekle, WHO Geneva
- Modeste Tezembong, WHO ESPEN|AFRO
- Tijana Williams, GSK
Overview:

Introductions and the importance of NTD End-To-End Supply Chain

Overview NTD First-Mile Supply Chain

Practical Session on the Tools of NTD First-Mile Supply Chain

Overview of the NTD Last-Mile Supply Chain

Breakout Sessions
## Medicines of the NTD PC End to End Supply Chain

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Company</th>
<th>Donation Start Date</th>
<th>Disease Treated</th>
<th>Site of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albendazole (ALB)</td>
<td>GlaxoSmithKline</td>
<td>2000</td>
<td>Lymphatic filariasis, soil-transmitted helminthiases</td>
<td>Nashik, India, Cape Town, South Africa</td>
</tr>
<tr>
<td>Ivermectin (IVM)</td>
<td>Merck Sharp &amp; Dohme (MSD)</td>
<td>1987, 1998</td>
<td>Lymphatic filariasis: as much as needed for as long as needed, currently 395 million tablets per year; onchocerciasis: as much as needed for as long as needed, currently 178 million tablets per year and in areas co-endemic for lymphatic filariasis and onchocerciasis, 218 million tablets</td>
<td>Haarlem, Netherlands</td>
</tr>
<tr>
<td>Azithromycin (ZTH)</td>
<td>Pfizer</td>
<td>1999</td>
<td>Trachoma, 120 million doses were donated</td>
<td>Puerto Rico (tablets); Italy (paediatric oral suspension)</td>
</tr>
<tr>
<td>Diethylcarbamazine (DEC)</td>
<td>Eisai Pharmaceuticals India Pvt Ltd</td>
<td>2014</td>
<td>Lymphatic filariasis, commitment for 2.2 billion tablets until 2020</td>
<td>India</td>
</tr>
<tr>
<td>Mebendazole (MBD)</td>
<td>Johnson &amp; Johnson</td>
<td>2010</td>
<td>Soil-transmitted helminthiases, commitment for up to 200 million tablets per year until 2020 for school-age children</td>
<td>Portugal</td>
</tr>
<tr>
<td>Praziquantel (PZQ)</td>
<td>Merck</td>
<td>2008</td>
<td>Schistosomiasis, donation increasing progressively to up to 250 million tablets per year for an unlimited period</td>
<td>Mexico</td>
</tr>
</tbody>
</table>
The **NTD Supply Chain Forum** focuses on the delivery of NTD donations from the manufacturer to the country central medical stores (*First Mile*) *and* responds to potential in-country supply chain management and distribution areas where further support may be required (*Last Mile*).
End-To-End Supply Chain

Request submission
- Late Submission
- Poor quality

Reporting
- Poor Inventory at country level
- Poor information management
- Limited capacity

MDA/Case Management
- Poor coverage
- Expiry of Medicines e.g PZQ

Country Warehouse
- Shortage of Warehouse
- Poor storage conditions

Supply Chain Mx Cycle

Custom clearance
- Delayed clearance
- Tax exemption (office and border closures)

Shipping
- Unavailability of transportation
- Long Booking time

Review & Clearance
- Slow response, action and communication
- Late Review/ Approval/clearance time

Pharma production
- Production Capacity (Countries requesting medicine same time)

Green light
- Late green light
- Complex regulatory requirements
- Import permit
- Special labelling

ntd-ngonetwork.org
The NTD End-To-End Supply Chain

SUPPLY CHAIN: THE END-TO-END FIGHT AGAINST NTDS

https://www.youtube.com/watch?v=NnEUwI3g414

ntd-ngonetwork.org
Overview of the First-Mile Supply Chain
Country Drug Forecast

- Utilized by the donation programs (WHO/ITI/MDP/Other)
  - Prioritize orders

- Utilized by Pharma Donors
  - Secure capacity
    - Active pharmaceutical ingredient (API)
  - Manufacturing schedule
  - Shipment plans
Order Received by Pharmaceutical Doner

- Order processed by pharma company
- Notification of pending shipment
- Medicine are produced, labelled, and packed for the order.
Request of Green Light from the Consignee

- Consignee Approval to Ship
  - Container inspection.
  - Import permits.
  - Complicated clearance process.
  - Limited Central Medical Store or national warehouse.

Green Light from the Consignee

DONOR SHIPPING DOCUMENTS

• Key Documents
  ▪ Certification of Analysis
  ▪ Certificate of Donation
  ▪ Certificate of Origin
  ▪ Invoice and No-Cost Invoice
  ▪ Packing List
  ▪ Airway Bill *

* the sea freight Bill of Lading is not available with the Green Light documents
Transportation Process (Sea/Air)

• Donor books transportation of shipment with Freight Forwarder.

• Freight Forwarder provides shipping details to donor.

• Shipping advice provided to consignee.
  ▪ Sea freight Bill of Lading is included at this time.
Consignee Clearance Documents

- Consignee applies for Customs clearance documents, Port (sea/air) and or Border
  - Example of documents
    - Tax Exemption waiver
    - Federal Ministry of Finance waivers
    - Ministry of Health stamp of approval of shipping documents
    - Others
It is the responsibility of each country that receives NTD PC medicines to identify and obtain country specific documents that are required to clear a shipment through customs.
Consinee Clearance Documents (continued)

- Resources for obtaining the list of documents and their required processes.
  - MoH shipping logistics officer
  - National medical store logistics officer
  - Local freight forwarder
  - Freight forwarder that provided previous shipment.
Consignee Clearance Documents (continued)

• Why is this important?
  ▪ Delay in providing shipments on time for MDAs.
  ▪ Concerns over the safety of stock detained in customs.
  ▪ Additional costs to the Consignee, WHO or the Donor for the delays.
Consignment Cleared Through Customs

- Freight Forwarder completes customs clearance.
  - Doner shipping documents
  - Consignee clearance documents

- Freight Forwarder books transpiration to nation medical store.
Transportation to Central Medical Store

- Donor’s responsibilities for ALB, IVM, MEB, PZQ.

- Consignee's responsibilities for DEC and Zithromax.
Transportation to Central Medical Store (continued)

- Consignee responsibilities:
  - Offloading of shipment from trucks
  - Truck Demurrage for delays in offloading.
Tools of the First-Mile Supply Chain

The Zithromax® Shipment Tracker
NTDeliver

The instant tracking of select NTD PC medicines from receipt of the order by donors, to the fulfillment of the order, and then the final delivery to the country.

Online [www.ntdeliver.com/country](http://www.ntdeliver.com/country) or Subscription [www.ntdeliver.com/subscribers/new](http://www.ntdeliver.com/subscribers/new)
Live view:

www.ntdeliver.com/country

www.ntdeliver.com/subscribers/new
The Zithromax® Shipment Tracker

New Web-Based Solution Improves Visibility of the Zithromax® Supply Chain

The International Trachoma Initiative is excited to introduce the Zithromax® Shipment Tracker, a way for partners to receive updates on the status of ITI’s donations to their respective countries. From the signing of the annual donation agreement to the delivery of drug at the port of destination, the Zithromax® tracker allows you to monitor the progress of a shipment from beginning to end.

The Zithromax® Shipment Tracker gives on-demand 24/7 access to information about recent and upcoming shipments of antibiotic to recipient countries in an easy-to-follow electronic format. The Tracker provides information about the quantities of drugs requested via the Zithromax® Application, current decisions made by the Trachoma Expert Committee, quantities shipped year-to-date, quantities remaining to be shipped, expected arrival date and mode of transport.

Click on the link to subscribe and begin receiving automated email updates for your countries of interest: https://www.trachomadata.org/supply-chain/subscription
The Zithromax® Shipment Tracker

Live view:

https://www.trachomadata.org/supply-chain/subscription
Overview of the Last-Mile Supply Chain
Challenges

- Poor Inventory at country level
- Poor information management
- Limited capacity

- Lack of space
- Poor store management

- Lack of funding
- Poor road and infrastructure

- Impact on coverage

- Limited mechanism or incentive for reverse logistics
- Limited capacity

- Poor documentation and reporting

- Not respecting FEFO

- Stockouts
- Over stocking

- FIRST EXPIRY-FIRST OUT (FEFO)

- Poor quantification to HF, Schools, CDDs

MDA

Transportation to Periphery

Inventory management

Reporting and record keeping

Storage facility

Reverse logistic and inventory management

Last mile Supply Chain Cycle

Challenges of Last mile
Receipt of Medicines at Central Medical Store

- Medicines are inspected and counted
- Proof of delivery is signed
- NTD medicines are securely stored before transfer to MDAs
Practice First Expiry – First Out (FEFO)

- Key Considerations of using FEFO
  - Assurance of product quality
  - Reduction of loss due to expiry
  - Stewardship of donated drugs
Inventory Management

• Tracking of drugs at every stage before/after the MDA
  ▪ Knowledge of where the drugs are at every stage, how they’re stored and transported
  ▪ Visual inspections; not relying only on reports
  ▪ Recording of damaged, expired stocks, and the reasons
  ▪ Accurate reporting and ensuring management of drug data
Reverse Logistics

• Key Factors:
  • Return usable surplus stock from lower levels to higher levels to facilitate redistribution.
  • Ensure adequate budget is available.
  • Responsible persons clearly identified to intact reverse logistics.
Reporting

• Key Factors:
  • Report both treatment figures and stock balance side by side
  • Do not focus only on treatment number.
  • Determine the timeline of reporting after MDA
  • Ensure records are kept at all level and summary forwarded
  • Utilize the data locally
  • Responsible persons clearly identified to intact reverse logistics.
Quantification

- Defines how much will be procured and when will it be delivered
  - Estimates demand, unit costs, existing stocks, expiries, freight, logistics, lead times and buffer stocks
Forecasts are used to determine the amount of drug needed to meet the health demand of the population.

Calculate using:
- Historical treatment data
- Endemicity changes
- Demographic data
Application Submission and Approval

- Key Factors for Supply Chain:
  - In-country Inventory
  - Shipping Contact information
  - Import requirements
    - What is required, and how long does this process take
Tools for Last mile

SOPs for Supply Chain Management Toolkit (available in French, English, and Portuguese)

01. Joint Application Package (JAP)  
02. Shipping Notification and Green Light  
03. Customs Clearance and Delivery  
04. Transport  
05. Inventory Management  
06. Storage  
07. First Expiry, First Out  
08. Reverse Logistics  
09. Removing Expired and Unserviceable Drugs  
10. Waste Management  
11. Forecast-Quantification
Breakout Sessions on Supply Chain
Breakout Session One: First-Mile
10 min - Question and Answer Session
10 min – Discussion on Best Practices and Strategies

Breakout Session Two: Last-Mile
10 min - Question and Answer Session
10 min – Discussion on Best Practices and Strategies
Key Points of First Mile and Last Mile Breakouts

5 min – First Mile Reporter

5 min – Last Mile Reporter
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