

ANNUAL MEETING OF NATIONAL NTD PROGRAMME MANAGERS IN THE WHO AFRICA REGION

November 29 to December 1, 2023

BRAZZAVILLE, CONGO
WHO AFRICA REGIONAL OFFICE





Session 9: Supply Chain Management Moderator - Dr Afework Tekle

Supply Chain Management Challenges - Dr Afework Tekle, Dr Anh Tuan Le, Tunde Oladimeji, Dr DIOP, Boubacar NTDs Supply Chain Management in Rwanda - Ladislas NSHIMIYIMANA Optimizing last Mile NTD Medicine Supply Chain Management in Kenya - Wyckliff Omondi







ANNUAL MEETING OF NATIONAL NTD PROGRAMME MANAGERS IN THE WHO AFRICA REGION

"Stepping up County Ownership to Accelerate Programmatic Action"

29 November -1 December 2023

Dr Afework Tekle, Unit Head, Dr Anh Tuan Le, Strategic Operations Unit Global NTD Programme, WHO/HQ





Mr DIOP, Boubacar & Mr Tunde
OLADIMEJI
WHO/AFRO/ESPEN

Outline



Management of NTD Health Products in the Road map

Program Goals and Scope

Achievements

Supply Chain Management Challenges

Available Resources

Way forward- action points



Gap assessment for each NTD

No hindrance towards target Critical action required to reach target		Eradication		Elimination (interruption of transmission)		Elimination as a public health problem				Control															
		Sales Sales	Human African trypano	Leprosy (Bambiense)	Onchocerciast	Chagas disease	Human African trypanoso	Leishmaniasis (rhodesiense)	Lymphatic fil	Rabies	Schistosomiaes	Soli-transmitta.	Tachoma	Buruli ulcer	Chikungunya	Dengue	Echinococcosie	Foodborne tra	Leishmaniasis (Mycetoma	Chromoblastomycos:	Scables and other	Snakebite enven.	Taenlasis / Cysticercosis	
	Scientific understanding																								
Technical progress	Diagnostics																								
	Effective interventions																								
	Operational and normative guidance																								
Strategy	Planning, governance and programme management																								
and service	Monitoring and evaluation																								
delivery	Access and logistics																								
	Health care infrastructure and workforce																								
Enablers	Advocacy and funding																								
	Collaboration and multisectoral action																								
	Capacity- and awareness-building																								



Our goal is

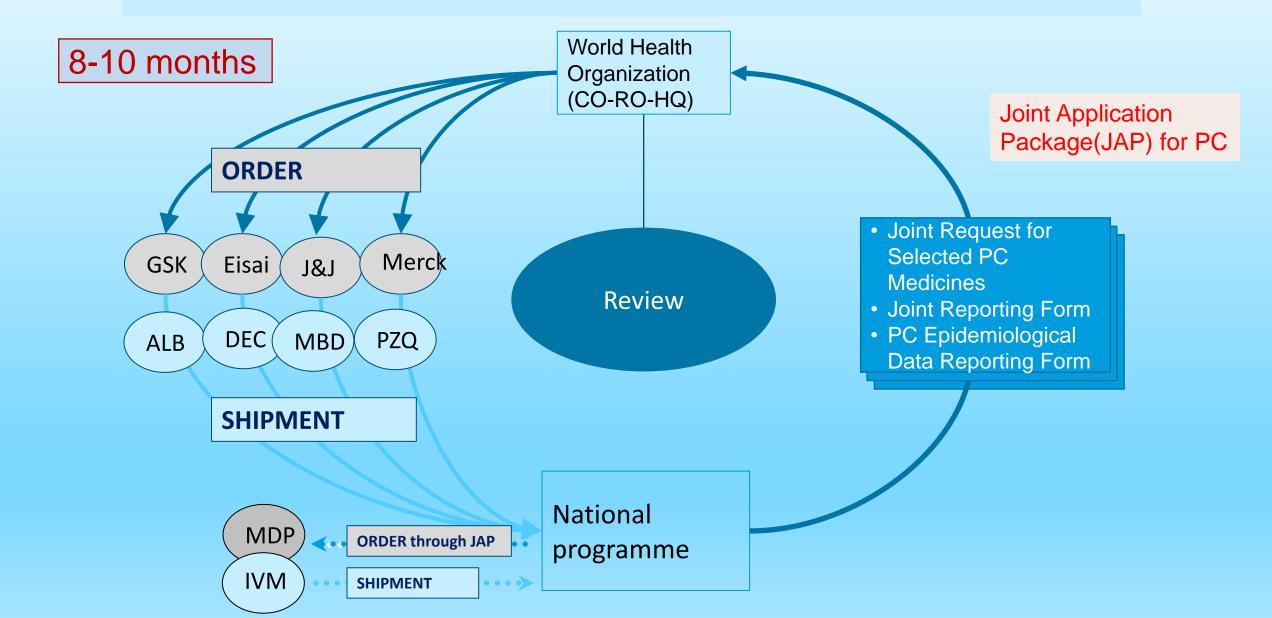
- To improve access to quality assured NTD medicine and Health Products to all countries...to achieve the NTD Roadmap goals
 - requiring NTD interventions <u>apply</u> for donated or procured NTD Health Products
 - receive donated or procured NTD Health Products on time
 - <u>Distribute/utilize the</u> donated or procured NTD Health Products as planned and rationally
 - report on implemented activities within a defined timeframe.
 - Ensure the pharmaceutical donors and Global NTD community get those reports
- To support pooled procurement or advice countries on procuring quality assured
 NTD Health Products or promoting PQ
- Providing PQ to manufacturers

How?



- Coordination of NTD Health Product donation pharma donors, forwarders, countries and implementing partners
- Strengthening country support activities through closer collaboration with WHO Regional Offices and Country Offices
- Produce guidance and capacity building tools to NTD programmes
- Supporting the JAP Review and supply chain management process
- Expand access to NTD Health products to all NTDs through donation or negotiated price and pooled procurement
- Problem-solving country visits
- Coordinated follow-up on implementation

Joint PC process at global level



PC Joint Application Package

A joint mechanism and a set of forms have been developed to facilitate the process of application, review and reporting as well as to improve coordination and integration among different programmes for elimination and control of lymphatic filariasis (LF), onchocerciasis (ONCHO), schistosomiasis (SCH) and soiltransmitted helminthiases (STH).

In June 2022, WHO/NTD released a fourth version of IAP





Annual Work Plan

As part of the global efforts to accelerate expansion of preventive chemotherapy (PC) for elimination and control of lymphatic filariasis, schistosomiasis, soil-transmitted helminthiases and onchocerciasis, the World Health Organization (WHO) facilitates the supply of necessary medicines. In order to request for medicines, submission of the Annual Work Plan together with

PC Epidemiological Data Reporting Form v.4.0

Annual Work Plan

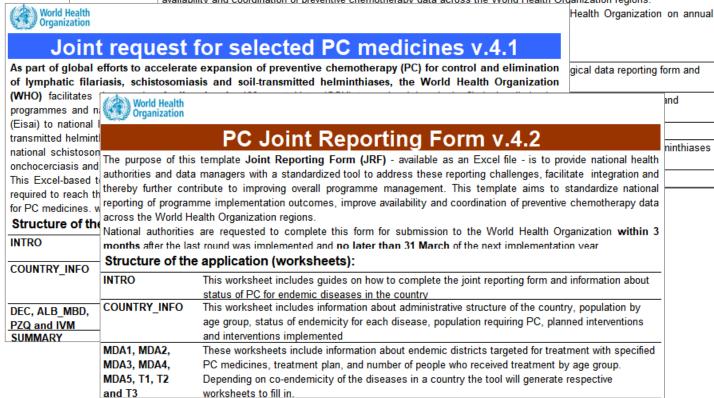
DISTRICT

SUMMARY

on the key activitie The purpose of this template PC Epidemiological Data Reporting Form (PC EPIRF) - available as an Excel file - is to technical resource provide national health authorities and data managers with a standardized tool to address these reporting challenges. facilitate integration and thereby further contribute to improving overall programme management. This template aims to standardize national reporting of epidemiological data on diseases targeted for preventive chemotherapy, improve availability and coordination of preventive chemotherapy data across the World Health Organization regions.

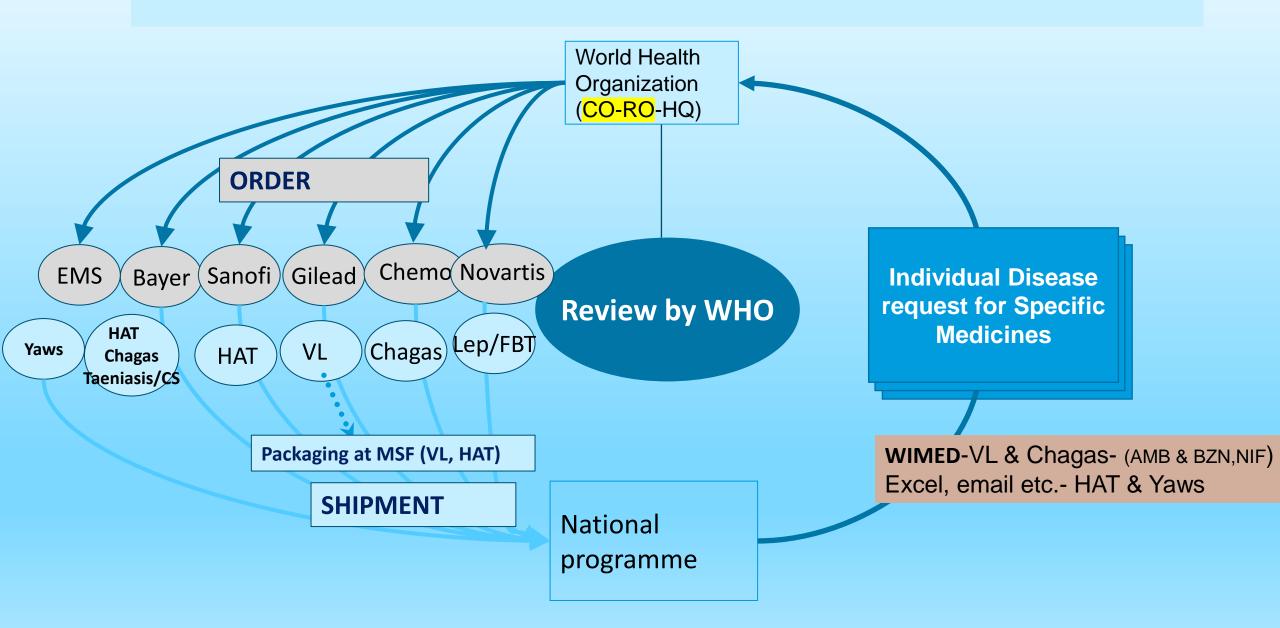
This worksheet includes summary of people treated by disease at the level of implementation. If

This worksheet includes summary of people treated by disease and by PC intervention. Before

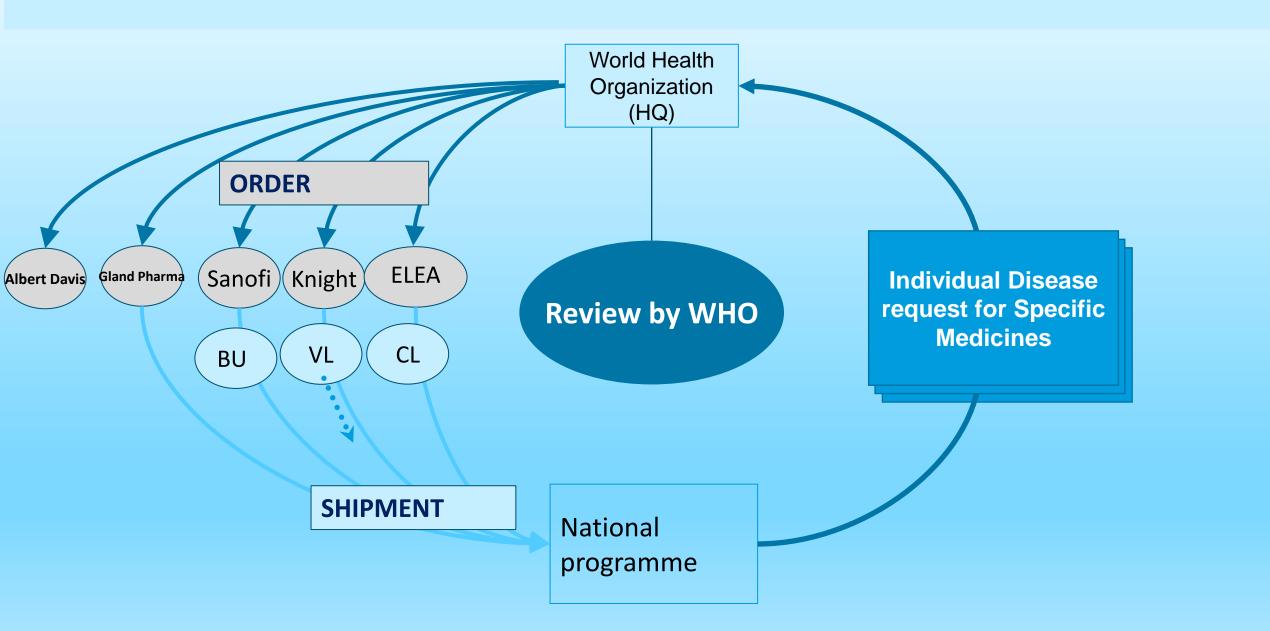


data by gender is available, it requires to enter.

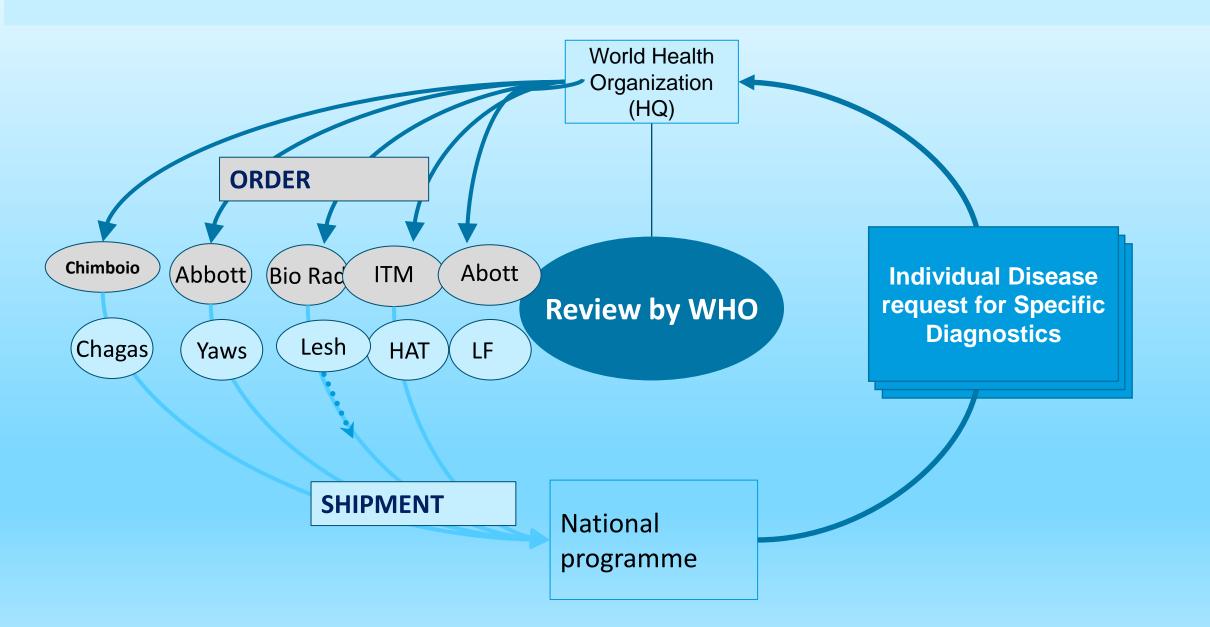
IDM Medicine Donation Management Process



CM Medicine Procurement Management Process



Diagnostics Procurement Management Process



Work with more than 12 Pharmaceutical Donors and partners on NTD Health Products































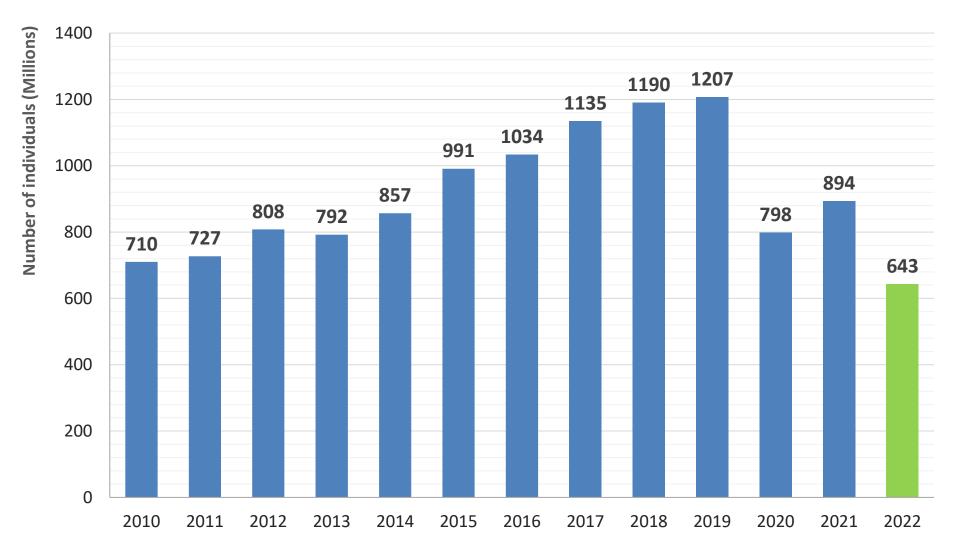




NTDs	Manufacturer	Product Name	MOU Period		Donation Commitments			
Chagas disease	•	Nifurtimox (120 mg tablets)	2007–2025	•	Up to a total of 12,500,000 tablets for the treatment of Chagas disease			
	Chemo Group (Mundo Sano)	Benznidazole (100 mg tablet; 12.5 mg tablet)	<mark>2020–2023</mark>	•	3,000 tablets (12.5mg)/105,000 tablets (100mg)			
Cystic echinococcosis	GlaxoSmithKline (GSK) (UK)	Albendazole (400mg tablets)	2022–2025	•	Up to 5 million as long as it is within the limit of the overall donation of ALB from GSK			
Foodborne trematode infections (clonorchiasis and opisthorchiasis)	•	Praziquantel (600 mg tablets)	2020–2024	•	Within the limits of the donation of praziquantel for taeniasis/cysticercosis			
	•	Nifurtimox (120 mg tablets)	2009–2026	•	Up to 150,000 tablets for five years, adjustable to needs to treat human African trypanosomiasis			
Human African		Suramin (1 g in vial)	2002–2026	•	Up to 10,000 vials for five years, adjustable to needs to treat human African trypanosomiasis			
trypanosomiasis (HAT)	Sanofi (France)	 Eflornithine (200 mg per mL in 100 mL bottle); Melarsoprol (3.6% in 5 mL ampoule solution (180 mg of active compound); Pentamidine (200 mg powder for injection) 	2001–2026	•	Unlimited quantity for the treatment of human African trypanosomiasis			
		Fexinidazole (600 mg tablets)	2019–2026					
		Liposomal Amphotericin B (lyophilized 50 mg formulation in vials) (AmBisome®)	2012–2016	•	Up to 445,000 vials for the treatment of visceral leishmaniasis in South-East Asia and East Africa			
Visceral leishmaniasis (VL)			2016–2021	•	Up to 380,400 vials for the treatment of visceral leishmaniasis in South-East Asia and East Africa			
, ,			2023-2025	•	Up to 304,700 vials for the treatment of visceral leishmaniasis in South-East Asia and East Africa			
Vawc	EMS SA Pharma (Brazil)	Azithromycin (500 mg tablets)	<mark>2019–2023</mark>	•	153 million tablets to support the global eradication of yaws.			
Leprosy	Novartis (Switzerland)	ClofazimineMDT Adult and Children	2000–2025	•	Up to 1,650,000 capsules for the treatment of severe erythema nodosum leprosum reactions Up to 2,478,000 blisters annually for the treatment of leprosy and its complications			
	Raver AG	Niclosamide		_	Unito a total of 2,800,000 tablets for the treatment of taeniasis			

NTDs	Manufacturer	Product Name	MOU Period	Donation Commitments
Foodborne trematode infections (fascioliasis and paragonimiasis)		Triclabendazole (250mg tablets)	2016–2025	Up to 600,000 tablets for the treatment of fascioliasis and paragonimiasis
Lymphatic filariasis (LF)	(Japan)	Diethylcarbamazine citrate (100 mg tablets)	2014 until elimination of LF (current MOU runs till 2021)	 Up to 2.2 billion tablets committed for first 7-year period for use in the preventive chemotherapy of lymphatic filariasis Extended in 2017 until elimination is achieved Amendment 1 signed for donation till end 2021
		Albendazole (400mg tablets)	Since 1997 until elimination of LF	Up to 600 million tablets annually for use in the preventive chemotherapy of lymphatic filariasis
Schistosomiasis (SCH)		Praziquantel (600 mg tablets)	Since 2007 for an unlimited period	 Up to 200 million tablets annually for the treatment of schistosomiasis in school-age children (notably in Africa) Since 2017, donation scaled up to 250 million tablets annually for the treatment of schistosomiasis
Soil-transmitted	GlaxoSmithKli ne (GSK) (UK)	Albendazole (400mg tablets)	2012–2025	Donation expanded by 200 million tablets annually for use in the preventive chemotherapy of soil-transmitted
helminthiasis (STH)		Mebendazole (500 mg tablets)	Until 2025	Up to 200 million tablets annually for the treatment of soil-transmitted helminthiases in school-age children

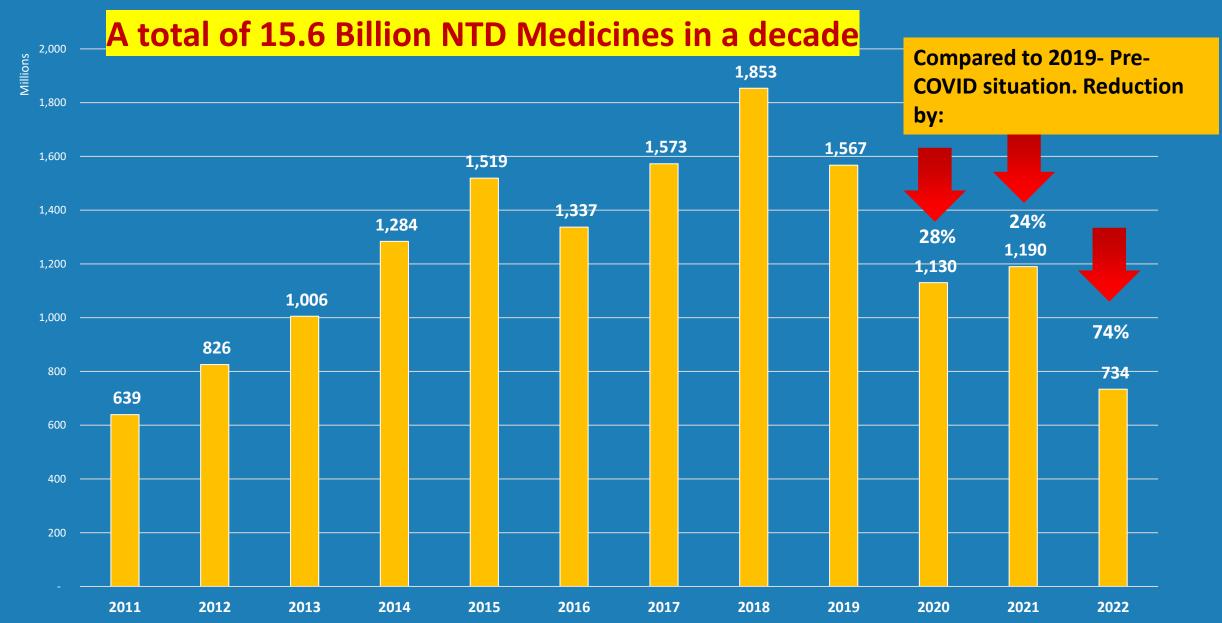
Number of individuals received Preventive Chemotherapy (PC) interventions for at least one disease, 2010-2022 (as of 25 October 2023)



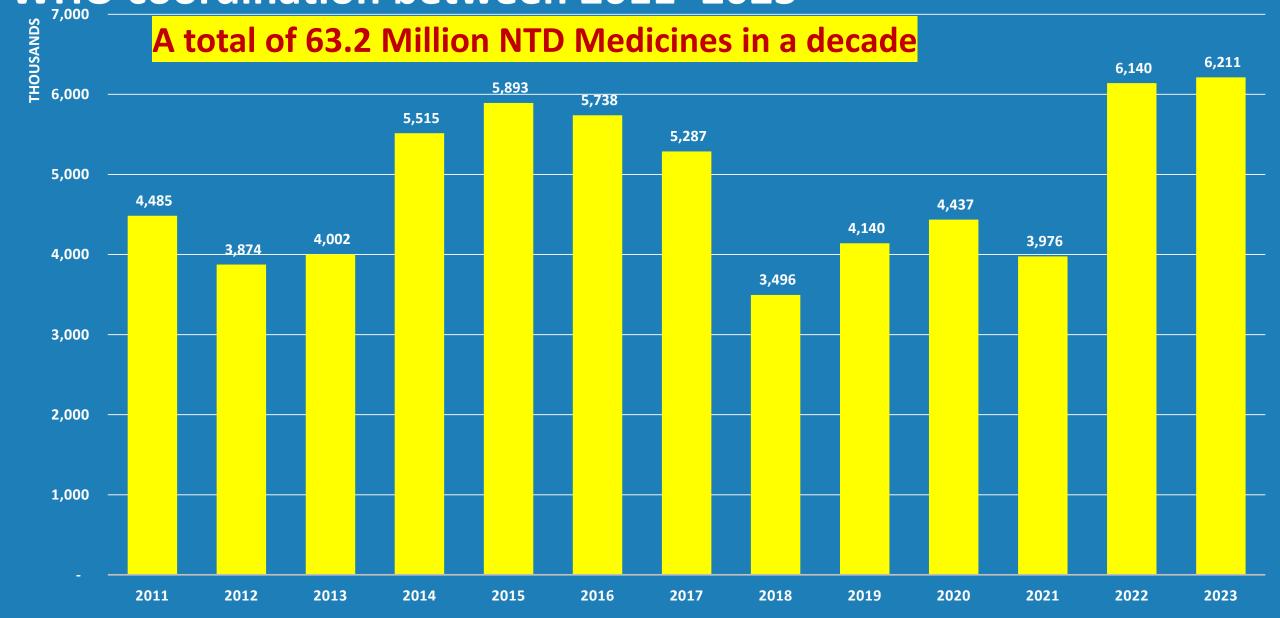
These interventions have been delivered to individuals living in areas which require PC and also in areas which may not require PC

Total number of NTD medicines supplied through WHO coordination between 2011–2022





Total number of IDM NTD medicines supplied through World WHO coordination between 2011–2023







Current NTD Program Implementation and Supply Chain Management Challenges post COVID



Challenges: first mile

Late Submission Poor information management

Poor quality

Request Submission Slow response, action and communication communication

Late Review / Approval / Clearance time

Review & Clearance

Limited availability of quality assured medicines

No Donation

Shortage of warehouse or poor quality etc.

Country Warehouse

Global Gap of

NTD Medicines

First Mile **Supply Chain Cycle** **Purchase** Ordering

Pharma **Production** Production (capacity, timing etc)

Late PO raising

Delayed clearance

Tax exemption

Customs Clearance

Quantification

and Forecasting

Green Light

Late green light

Complex regulatory requirements

Import permit

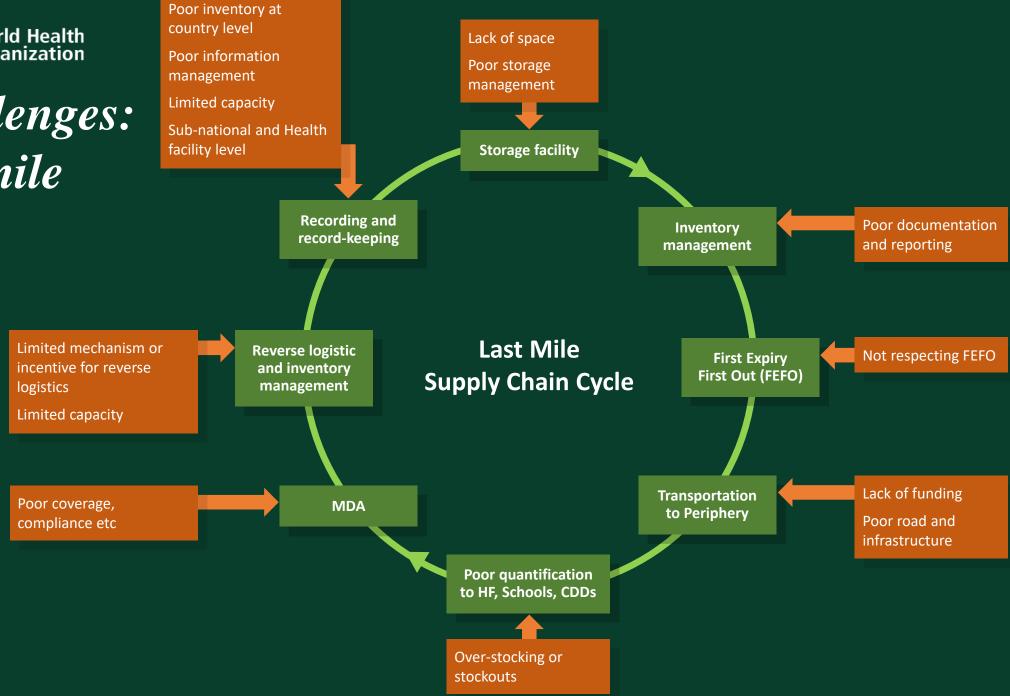
Special labelling

Shipping

Booking time



Challenges: last mile



Major Challenges POST COVID

- Reduced demand for medicines
- Increasing uncertainty of forecasting demands due to lack of accurate data
- Delayed provision of hard demand
- HR and funding shortage at WHO level for NTD Health Product donation management

Major Contributing factors



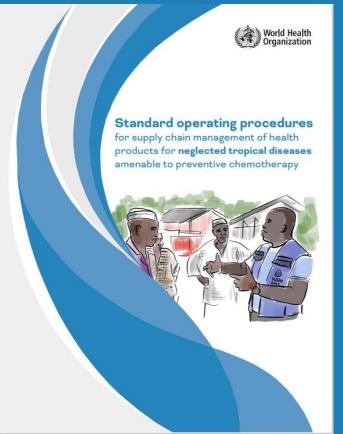
- Missed or postponed MDA <u>campaigns</u> due to <u>COVID</u> <u>pandemic</u>
- Retrieval of unutilized stock balances at country level
- <u>Significant local procurements</u> by some countries who normally receive donations.
- Reduction of major funding for MDA implementation
- Lack of inventory management at sub national level-LMIS
- Lack of information on funding availability for planned MDA
- Late submission and slow regional clearance of the JAP due to unaccounted balance and low responsiveness of NTDPs
- Lack of clarity of Schisto sub district data analysis
- very slow response from recipient countries WCO (for Report/request; for shipping GL, for additional tax, etc).
- Imposition of Tax and additional payments requests

Available resources for Capacity-building



 SOP Manual, Mobile application and online training course for Supply Chain Management of NTD Health Products

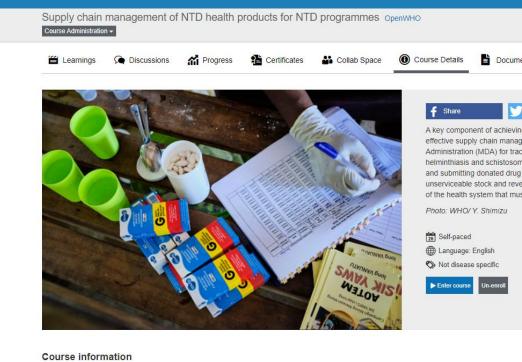
SOP Manual

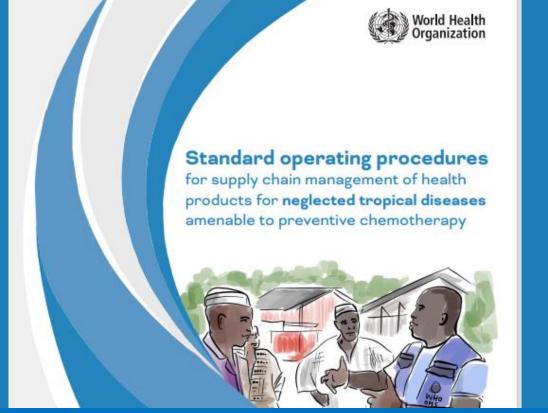


Mobile App



Online Course







- Released in July 2022 the standard operating procedures on supply chain management for NTDs for 11 key supply chain challenges, prepared in collaboration with the SCM Forum.
- English version: https://www.who.int/publications/i/item/978 9240049581
- Translation status:
 - Arabic, French & Spanish- translation review completed and formatting and publication soon.
 - Portuguese translation (Estacio de Sa University, Brazil) Translated and Under proof reading
- Thanks to the following volunteers who made the translation and its review review:
- Arabic EMRO specifically Dr Mona Osman
- Spanish- Mr. Moumine Yaro from TFGH and his other two francophone colleagues
- Spanish PAHO specifically Dr Ana Luciañez
- Portuguese: Estacio de Sa University, Brazil!.

ntation 2

Mobile application on NTDs Supply Chain SOPs















- Will contain all SOPs
 - All together and
 - Individual SOPs for download
- OpenWHO Training materials also available through the app
- If one needs certificate of achievement it is inked to OpenWHO training site for registration and taking the training
- Finalized and now publicly available at:
- Android phones users:

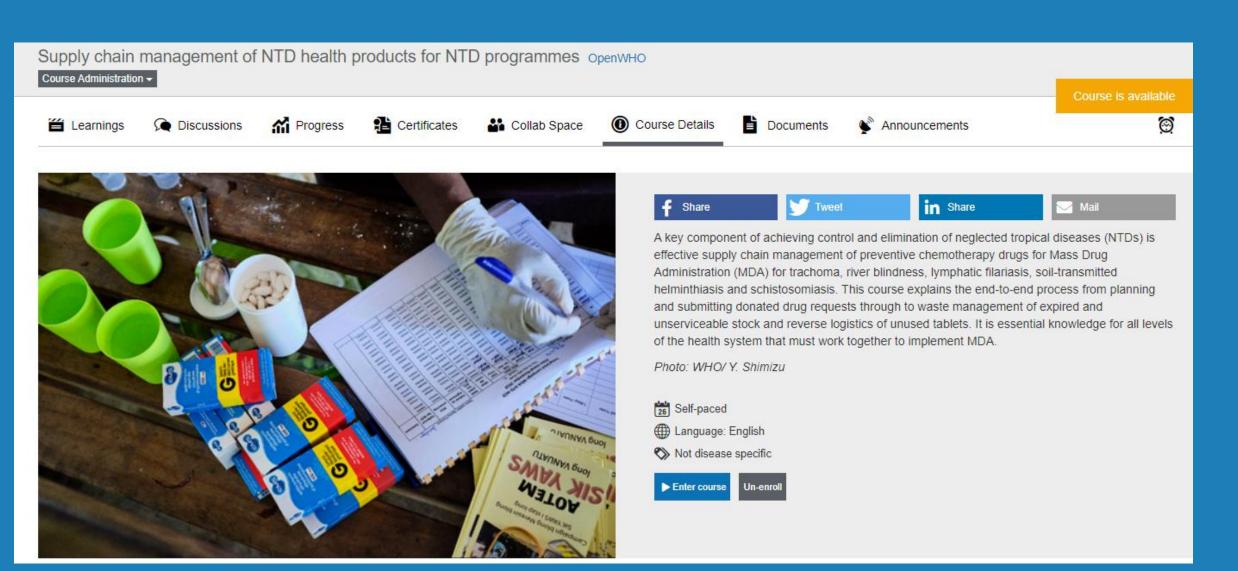
 https://play.google.com/store/apps/details?id
 =org.who.NTDSUPPLYSOP
- iPhone users

 https://apps.apple.com/us/app/ntds-supply-chain-sops-app/id6443441796
 bit.lv/NTDsSCSOPsAppGoogle https://bit.lv/NTDsSCSOP

 An online training course on supply chain management of NTD health products available in the NTD Channel in the OpenWHO platform.



https://openwho.org/courses/NTDs-supply-chain-managemen



Course Dashboard



4,809 Total (4,723 non-deleted)

+3 Last 24 hours

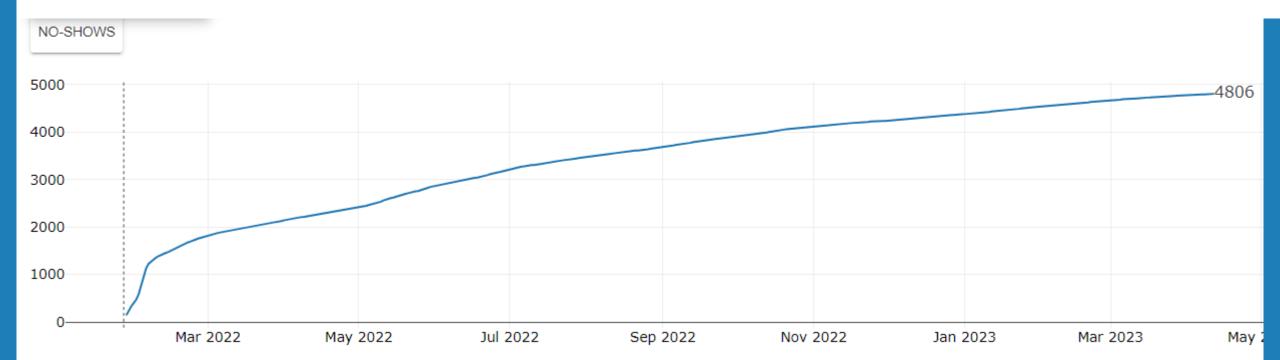
8 At start (8 non-deleted)

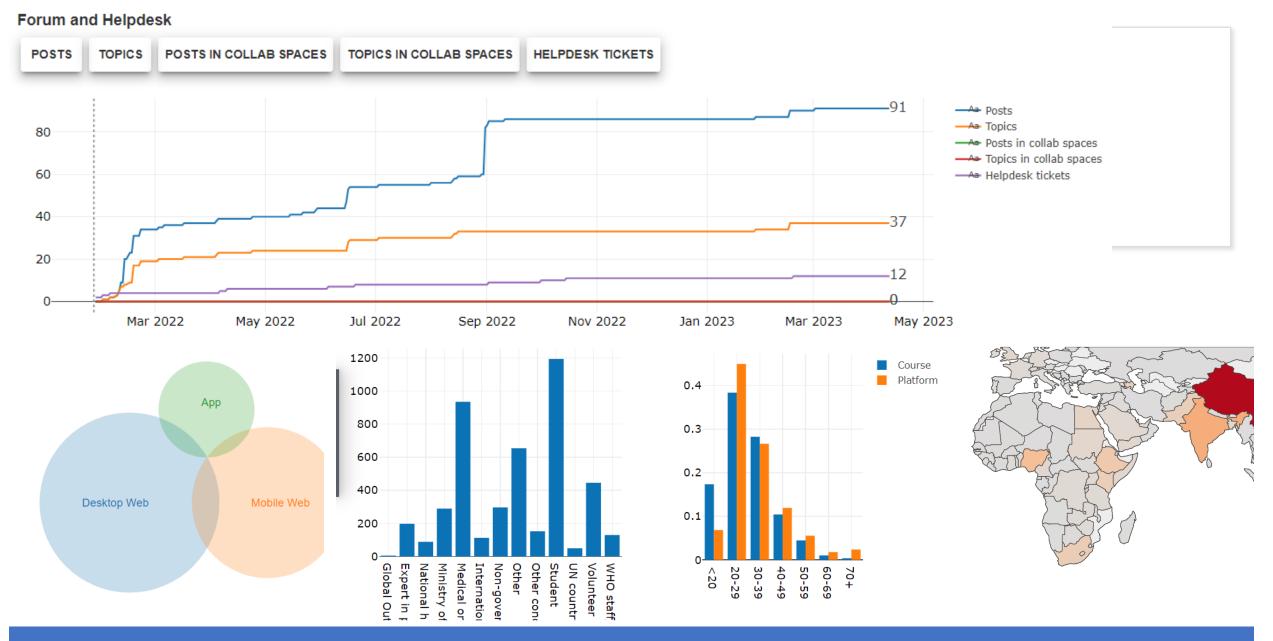
Activity

3,419 Current Shows
71% ratio based on total enrollments

Certificates

923 Records of Achievement ratio based on shows at middle





Translation of the course to French & Arabic is ongoing

Frequently Asked Question on Joint Application Package (JAP)- FAQ on JAP



Frequently asked questions on the joint application package for preventive chemotherapy

Planning, requesting medicines and reporting

Frequently asked questions on the joint application package for preventive chemotherapy. Planning, requesting medicines and reporting (who.int)



https://www.who.int/teams/control-of-neglected-tropical-diseases/interventions/strategies/preventive-chemotherapy/joint-application-package

- JAP Working Group
- Will contain all FAQ and web core FAQ
 - General
 - JRSM
 - JRF & EPRF
 - APW
- Final FAQ is published in WHO web page
- Translation to Arabic, French,
 Portuguese and Spanish has been done.

NTDeliver:



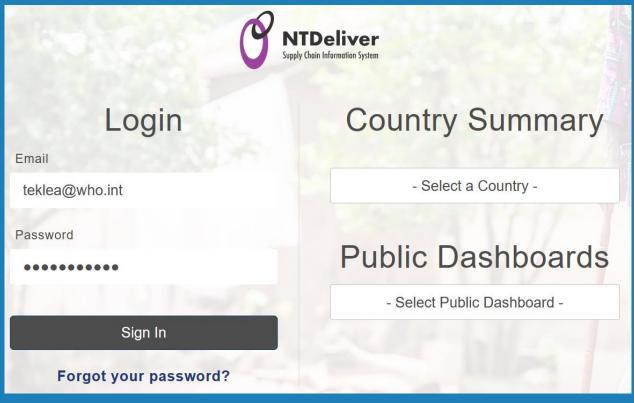


https://www.ntdeliver.com/

 Tracking, Planning and forecasting and reporting

NTDeliver: Overview Outputs Email Plan / Forecasting **PDF** CSV / Excel **Tracking** System Integration ("API") Reporting API SMS **Direct Data Entry NTDeliver**

Easily accessible



Actions Points:



- Countries are responsible and accountable to the NTD medicine donation and needs to give priority during MDA implementation and timely reporting.
- Account all remaining balances in some countries. Respond to WHO promptly.
- Provide Green Light on time and facilitate tax exemption and clearance at the port.
- Strengthen or develop a **Logistic Management Information system (LMIS)** for NTD Health product to improve last mile Supply chain management and integrate in existing system.
- Provide realistic short-term forecasts of medicines to be used by countries.
- Monitor funding available at implementation unit level.
- Produce a database where realistic funding available for implementation next two years.
- Rollout a monitoring and evaluation framework for donated medicines to 31



NTDs Supply Chain Management in Rwanda - Ladislas NSHIMIYIMANA









NTDs Supply Chain Management in Rwanda

Ladislas NSHIMIYIMANA, MPH, MAPPM NTDs and Other Parasitic Diseases Unit Rwanda Biomedical Centre



Challenges of Rwanda NTD Supply Chain before making changes



- The NTD program did not have the inventory of all donated medicines to compare with treatment reports
- Medicines distribution from districts to health centers used to be done out of the e-LMIS making impossible their traceability from districts to Community was impossible

 NTD program had a vertical supply chain, taking drugs to hospitals and hospital to HCs without using eLMIS (used in normal supply chain passing through district pharmacies)

- MDA medicines were stored in staff's offices not in pharmacy stock as for other medicines
- There was not reporting of drug balance, only the reported coverage
- MDA Data were reported in excel with the room of manipulation at different level



Monitoring the use of donated medicines every year –received, distributed & balance



COUNTRIES	Year	# ALB tablets donated via WHO	# MBD tablets donated via WHO	# Tablets distributed as per official report	BALANCE of tablet donated via WHO by selected year	EXPLANATIONS				
Rwanda	2012	5,200,000		2,654,947	2,545,053					
Rwanda	2013			2,892,865		As Albendazole were few, Mebendazole (347,812) was used to d				
Rwanda	2014	5,900,000		3,026,426	2,873,574	The treated children are not 3,323,164 but 3,026,426 in the FINA				
Rwanda	2015	6,355,000	1,302,000	6,753,573	3,777,001	The treated Pre-SAC with donated Mebs were not considered th SAC) 6,753,573 (Round 1: 2,922,992 SAC, Round 2:2,689,649 SAC				
		3,512,000		3,323,164	3,965,837	Treated No. is OK				
Rwanda	2016	Gov't contribution in drugs: 1,000,000 tabs				The quanity is used in deworming of some at-risk groups (lactati				
Rwanda	2017	6,625,000		6,796,282	3,794,555	The treated children are 6,796,282 and not 7,752,383. It seems a				
Rwanda	2018	2,657,000		7,144,162	- 692,607	The quantity of 1 million tablets purchased by the Government i				
Rwanda	2019	7,225,000		7,387,724	- 162,724	provided by World Vision International are used to cover this ga				
Rwanda	2020	7,232,000		3,810,378	3,421,622	Treated SAC: 3,369,257 & adults: 441,121 in June 2020				
Rwanda	2021	7,532,000	17,896,000	27,061,325		EXPLANATIONS ON USE/ POTENTIAL USE: Round 1 (Feb-March 21): considered as round due to COVID-19; Round 2 (June 2021) considered as round 1 in 2021: the reporting intermet was 11 857 278 (1 504 424 PRE-SAC + 3 459 974 SAC + 6 892 880 ADULTS). Bec				
	2022		25,032,297	21,170,045		Following the campaign MDA in May (Pre-SAC 1,460,132 treated), July (8,760,988 SAC (10,948,925 all age groups treated), the theoritical balance by December 24, 2022 is				
ALB&N	ALB&Mebs PZQ_WHO_Merck Graphs on quantities received Graphs on quantities received									



Integrated NTDs Program Supply Chain and M&E



National

MOH/RBC **HMIS** and **eLMIS**

- **Conducts Needs Assessment**
- **Submits request for Donation**
- **Submits Procurement Plan**

District Hospitals HMIS and eLMIS

Health Centres Sectors (416) **HMIS and eLMIS**

Schools (MDA) **SISCOM** Villages (14,837)

R e p 0

n

g

Rwanda Medical Supply. Ltd **eLMIS**

RMS Branches eLMIS

Health Centres Pharmacy eLMIS

CHWs and Teachers Community and Schools eLMIS & SISCOM

NTDs Drugs

- **Procured by RBC for MDA (END Fund)**
- **Government Funds for MDA**
- **Donated (JRSM-WHO) for MDA**
- **Essential Drugs for Routine**
- **Vitamin Angels**

S u p

h a

n

Districts (30)

Cells (2,148)

Tarry Sheets and

Community and



What did we change for SCM? use of eLMIS when Ordering and reporting & use of stock cards



MoH/RBC & Rwanda Medical Supply Ltd (RMS).

Distribution plan per HC

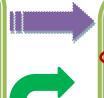
Ordering by RMS branches: **eLMIS**



District pharmacy

(RMS Branches)

Ordering by HCs: eLMIS



HCs @Sub-District

- 1. Ordering via eLMIS
- 2. Receiving & storing remaining drugs
- 3. Reporting remaining drugs in **eLMIS** vs Treated people in HMIS



Remaining drugs returned to CHWs responsible of the village





CHWs (Cell Coordinator)

- 1. Order drugs from HC
- 2. Provide quantities to schools for school deworming by teachers
- 3. MDA in communities



Best practices



- Monitoring the use of donated medicines improves accountability and transparency
- The vertical supply chain was discouraged to integrated in routine supply chain
- Through instructions:
 - the e-LMIS was made a standard tool for ordering and reporting MDA drugs
 - The vertical supply chain system was replaced by integrated suppliant chain down to village/school
 - MDA medicines were since then stored in pharmacy stock as for other medicines, each drug with specific stock card
 - Remaining drugs was encouraged to be reported in e-LMIS whereas reported coverage hasb been always reported in HMIS
 - ➤ MDA data were at the first time reported in HMIS (DH2), since 2021.





Thank you

Murakoze

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Optimizing last Mile NTD Medicine Supply Chain Management in Kenya

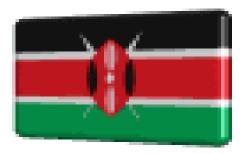
Wyckliff Omondi

Head, Vector Borne & Neglected Tropical Diseases Unit-MoH

01st December 2023



Ministry of Health



Overview of NTDs in Kenya



Control

Chikungunya
Dengue
Rabies
Snake bite
envenoming
Leishmaniasis
Scabies

Elimination by 2030
Schistosomiasis
Soil Transmitted
Helminths
Taeniasis/Cysticercosis
Trachoma

Dossier submission

Human African Trypanosomiasis Onchocerciasis by 2027 Lymphatic filariasis by 2025

Status unknown

Yaws Buruli Ulcers

Eliminated

Guinea worm



NTD pharmaceutical partners



ministry of Health

Product	Disease	Donor/Manufacturer	Coordination
Diethylcarbamazine (DEC) tabs 100mg	LF	Eisai	WHO
Albendazole tabs 400mg	LF & STH	GlaxoSmithKline	WHO
Mebendazole tabs 500mg	STH	Johnson & Johnson	WHO
Ivermectin (Mectizan®) tabs 3mg	LF & Oncho	Merck & Co. [MSD]	MDP
Praziquantel tabs 600mg	SCH	Merck Serono	WHO
Zithromax® tabs 250mg	Trachoma	Pfizer	ITI
Zithromax® POS 1200mg/30ml	Trachoma	Pfizer	ITI
Amphotericin B liposome for inj. (AmBisome®)	VL	Gilead	WHO





Challenges In supply chain



- Customs duties waiver delays at port of entry
- Irregular and incomplete Inventory management & reporting to the NTD programs
- Weak coordination on supply chain management between MoH and Partners
- Weak coordination between national and peripheral levels
- Lack of digital platform to enhance visibility at subnational levels





Challenges in Supply chain



Divergent global and country priorities and strategies

Global donation plans are standardized or designed with a broader perspective and divert from Country specific plans

Sub optimal storage conditions at the peripheral health facilities

Variation in storage conditions in various peripheral facilities levels may

compromise prolonged storage of NTDs commodities





Lessons learnt-solutions



- Review of MDA training manual to include supply chain management during MDA
- Development of supply chain management plan
- Increased visibility and accountability; PZQ supply chain
- Periodic checks in the central stores (FIFO)
- Mainstreaming NTDs products into national health systems such as eLMIS, eCHIS
- Training on WHO requisition forms



