

Annual Meeting of NTD National Programme Managers in the WHO African Region

Bonjour et
bienvenue!



Scan the
Code to Register

ESPEN Collect for End-to-End Onchocerciasis Vector Surveillance

Jordan Lerner

Director of Solutions Delivery at Dimagi





dimagi

ESPEN Collect for End-to-End Onchocerciasis Vector Surveillance

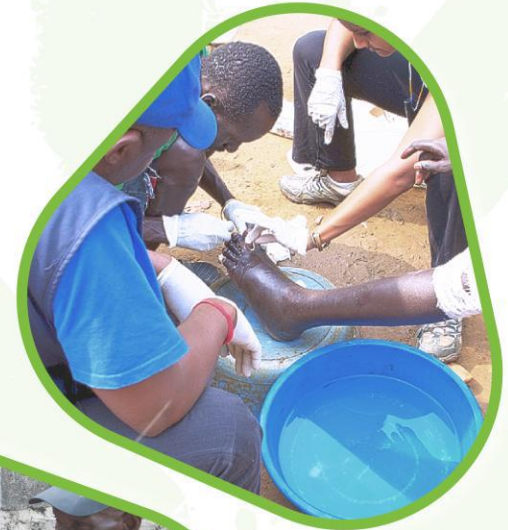
Jordan Lerner

Director of Solutions Delivery

April 2025



THANK YOU

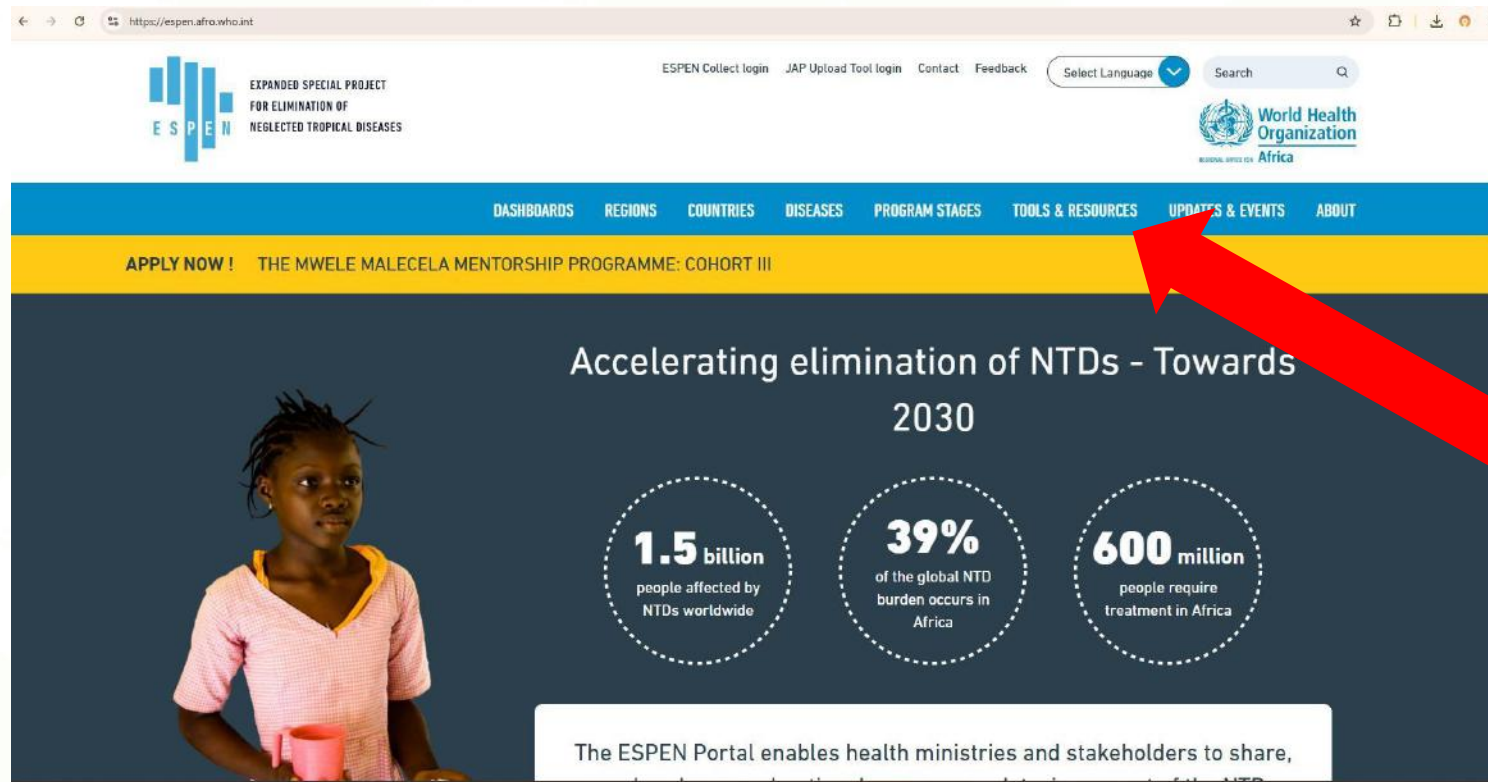


ESPEN Microplanner

Presented by Coite Manuel of Crosscut

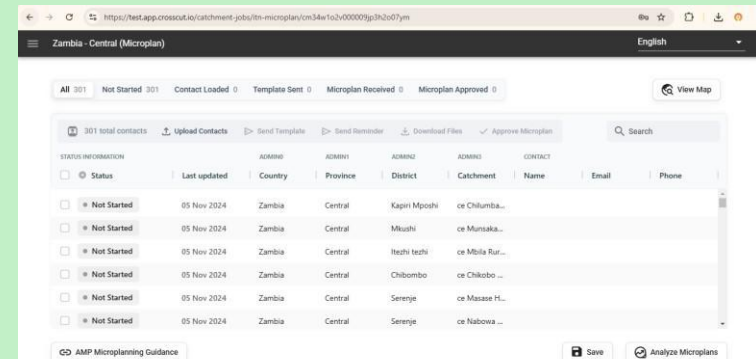


The ESPEN team is making the ESPEN Microplanner available to **all AFRO region countries** over the course of 2025



How does the ESPEN Microplanner help?

Use ESPEN Microplanner to disseminate, collect, and analyze microplans

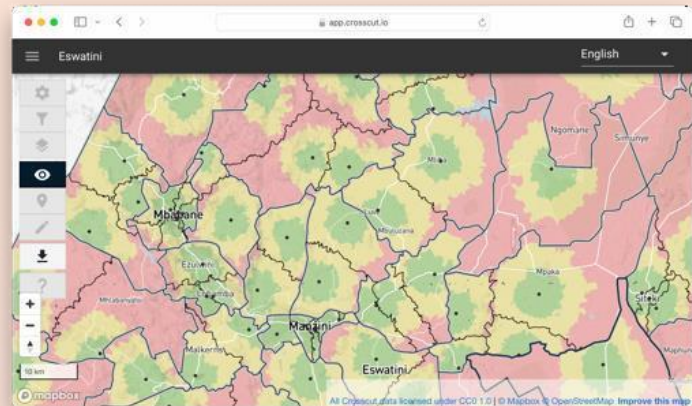


The screenshot shows the ESPEN Microplanner web interface for Zambia - Central. It displays a table of microplans with columns for Status, Last updated, Country, Province, District, Catchment, Name, Email, and Phone. The table lists several microplans, all with a status of 'Not Started' and a last updated date of '05 Nov 2024'. The interface also includes a search bar, a 'View Map' button, and a 'Save' button.

Status	Last updated	Country	Province	District	Catchment	Name	Email	Phone
Not Started	05 Nov 2024	Zambia	Central	Kapiri Mposhi	ce Chilumba...			
Not Started	05 Nov 2024	Zambia	Central	Muushi	ce Munakaba...			
Not Started	05 Nov 2024	Zambia	Central	Iteshi teshi	ce Mbia Rut...			
Not Started	05 Nov 2024	Zambia	Central	Chibombo	ce Chikobo...			
Not Started	05 Nov 2024	Zambia	Central	Serenje	ce Masase H...			
Not Started	05 Nov 2024	Zambia	Central	Serenje	ce Nabowa...			

➔ **Desired Outcome:** More accurate target population estimate increases true coverage of MDA's

Use ESPEN Microplanner to generate Supervisory Area Maps



➔ **Desired Outcome:** More communities in need are targeted and treated during MDA's

What does the ESPEN Microplanner do?

Use ESPEN Microplanner to generate Supervisory Area Maps

Features

Create and analyze catchment areas

- Generate supervisory area boundaries
- See travel time to all communities
- Identify hard-to-reach settlements

Integrate and Share

- Integrate with DHIS2, Google Earth, ESPEN Collect, ESPEN Portal
- Print beautiful maps for use at lower levels
- Download boundaries and load in other systems for better dashboards

Key Points

- Easy-to-use
- High-fidelity catchment area modeling runs in seconds/minutes
- Produce batches of maps for printing with one click
- DHIS2 app-of-the-year finalist
- Continuously updated as new map data is released
- Creates more granular sampling frames for future impact assessments

Use ESPEN Microplanner to disseminate, collect, and analyze microplans

Features

Send, Receive, and Analyze Microplans

- Stay organized during the microplanning process with all spreadsheets managed from a single location
- Track status of microplanning across all IUs
- Access microplanning templates aligned with WHO NTD standards

Compare population estimates

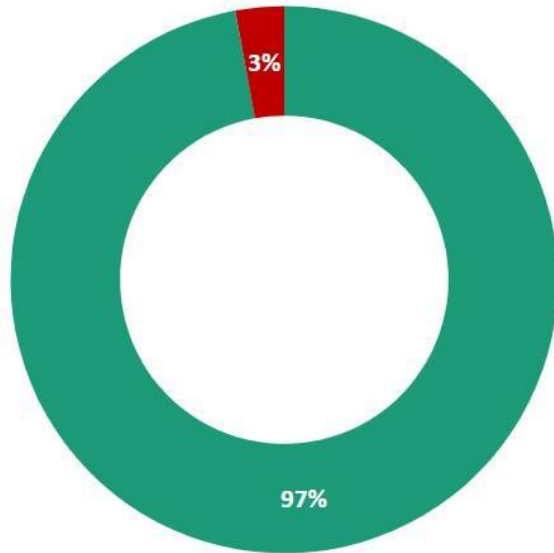
- See the latest population and building estimates from all available public sources
- Benchmark your collected microplan estimates to see how they compare and analyze outliers

Key Points

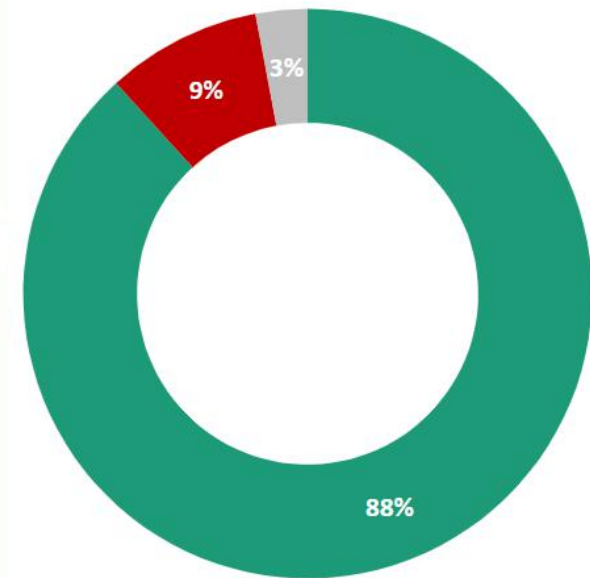
- Easy-to-scale: staff able to continue using Excel and email while moving towards greater digitization
- Reduces time required for microplanning through automated status tracking and targeted follow-ups
- Reduces file management errors, communication lapses, aggregation errors, formula errors through digitized microplanning process management

Almost everyone uses Excel and Email in Microplanning

Is **Microsoft Excel** used to collect and aggregate target population estimates from below the IU level?



Are Microsoft Excel templates **EMAILED** from upper health levels to lower health levels to collect target population estimates?



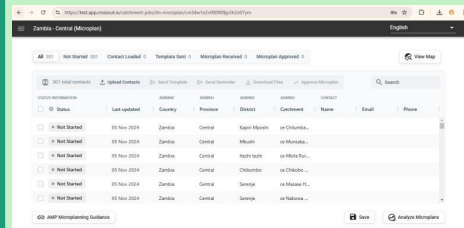
45 survey
respondents from
25 countries

Legend

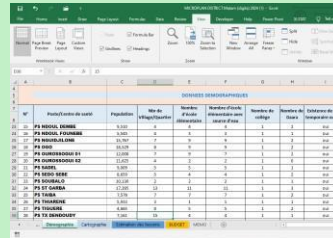
- Yes
- No
- Do not know

How does the ESPEN Microplanner help with Excel/Email?

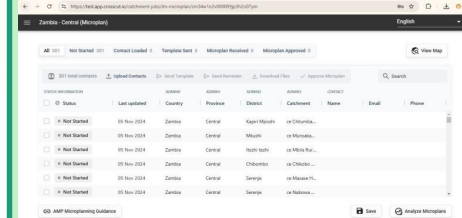
ESPEN Microplanner used to **manage collection** of Excel microplan templates



SA supervisors receive, complete, and return **Excel microplan templates** using ESPEN Microplanner



Microplans **aggregated and validated** using ESPEN Microplanner



Stay organized during the microplanning process with all spreadsheets managed from a single location

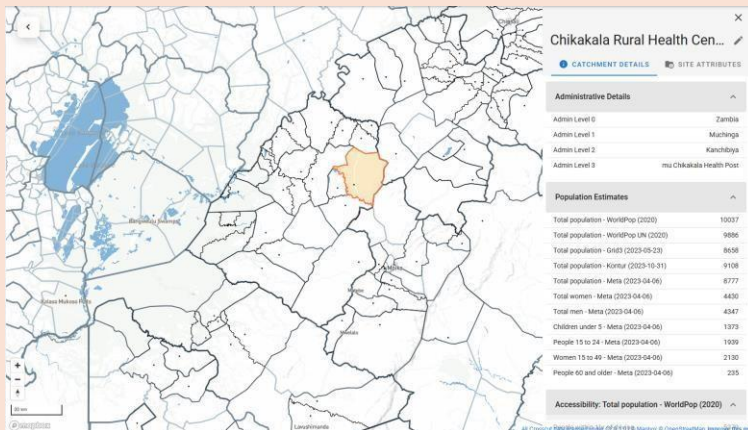
All 117 Not Started 19 Contact Loaded 0 Template Sent 87 Microplan Received 11 Microplan Approved 0							
117 total contacts Upload Contacts Send Template Send Reminder Download Files Approve Microplan							
STATUS INFORMATION							
ADMIN0		ADMIN1		ADMIN2		CONTACT	
Status	Last updated	Country	Province	District	Name	Email	Phone
Microplan Received	27 Feb 2025	Zambia	North-West...	Zambezi	Thomas Martinez	thomas75@mail.com	(476)211-7629
Template Sent	23 Mar 2025	Zambia	Central	Mumbwa	Heather Castaneda	heather.castaneda50@example.com	(816)798-1723x263
Microplan Received	17 Jul 2025	Zambia	North-West...	Kabompo	Katie Alvarez	katiealvarez@mail.com	+1-256-880-9030x45925
Template Sent	26 Mar 2025	Zambia	North-West...	Chavuma	Mark Fowler	mark43@mail.com	5351714358
Template Sent	12 Aug 2025	Zambia	North-West...	Mufumbwe	Jose Boyd	jose8@mail.com	(292)694-2741x3318
Template Sent	30 Dec 2025	Zambia	Southern	Namwala	Danielle Ramos	danielleramos@mail.com	+1-536-723-9121x1251
Not Started	17 Jan 2025	Zambia	Southern	Sinazongwe			
Not Started	17 Jan 2025	Zambia	Southern	Choma			
Template Sent	29 Jun 2025	Zambia	North-West...	Manyinga	James Lee	james.lee@example.com	848.398.2181x361
Template Sent	04 Jul 2025	Zambia	Southern	Pemba	April Bradley	april.bradley7@example.com	+1-723-708-8594
Template Sent	22 Nov 2025	Zambia	Southern	Monze	Christina Bell	christina.bell63@example.com	145.315.4800x1908
Template Sent	26 Mar 2025	Zambia	North-West...	Kasempa	Kathryn Franco	kathryn36@mail.com	+1-446-216-4466
Template Sent	03 Jun 2025	Zambia	Southern	Giwembe	Gary Dorsey	gary.dorsey@example.com	001-090-477-5550

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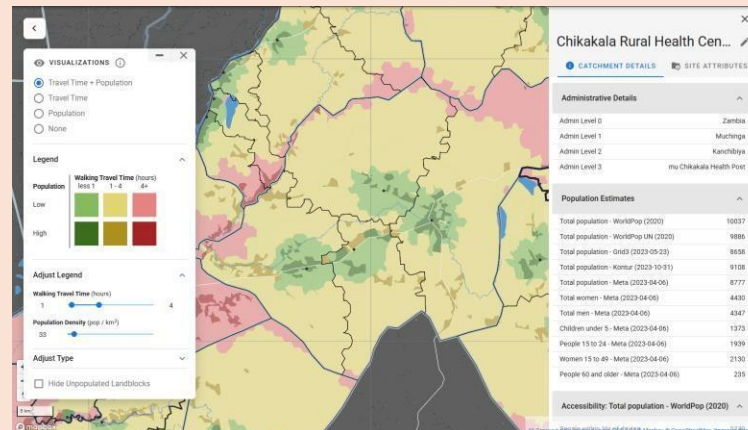
How does the ESPEN Microplanner help with Maps?

- ✓ Health facility catchment areas
- ✓ Settlement catchment areas
- ✓ MDA supervisory areas
- ✓ Identify and plan for hard-to-reach communities

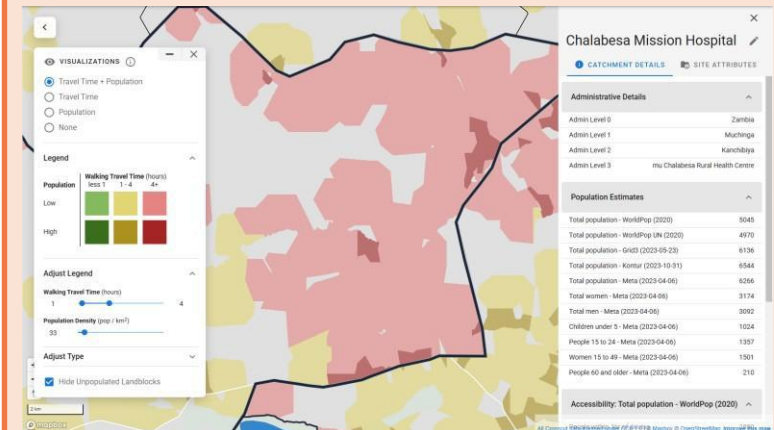
Easily create modeled sub-IU supervisory area boundaries



Visualize travel time and population heatmaps



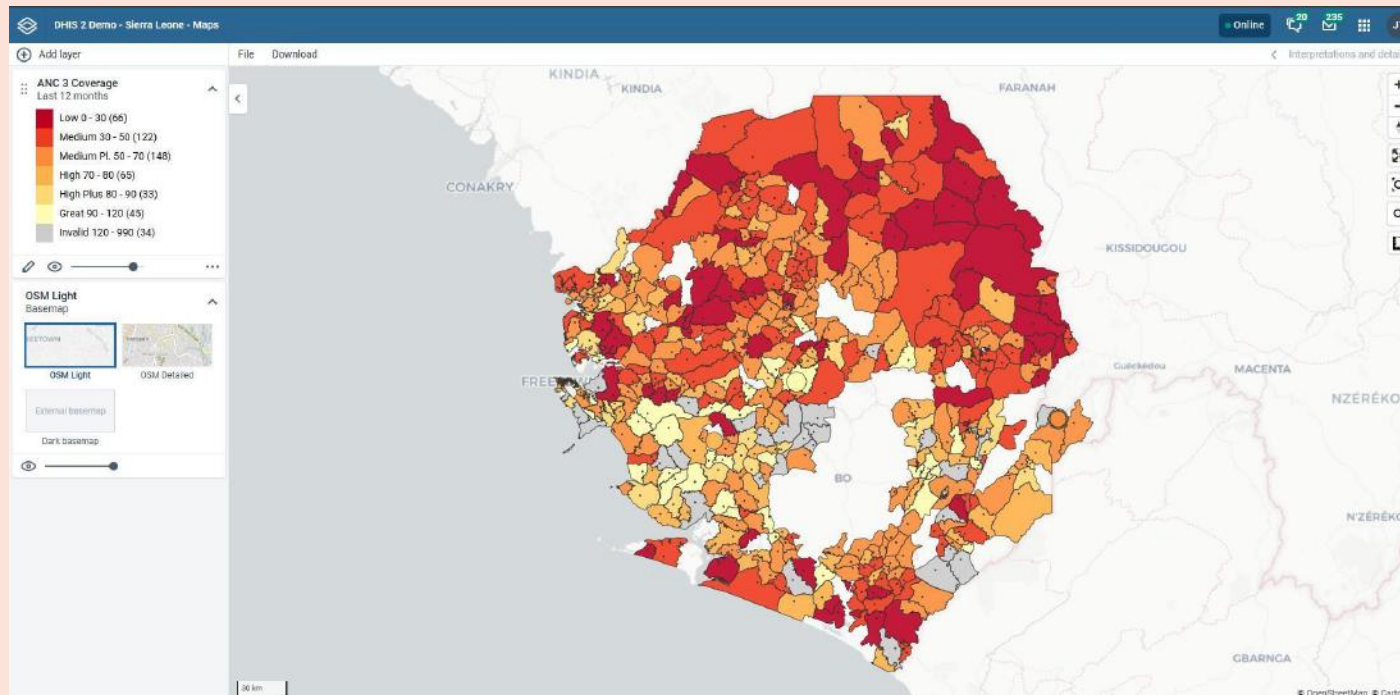
Identify hard-to-reach settlements



ESPEN Microplanner integrates with DHIS2

- ✓ Incorporate catchment areas into DHIS2 maps
- ✓ Use DHIS2 admin hierarchy when collecting microplans
- ✓ Validate DHIS2 target population estimates using ESPEN Microplanner
- ✓ Pull in microplanning population estimates directly into DHIS2

DHIS2 dashboard using ESPEN Microplanner catchment areas



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African Region**

If you are interested in piloting ESPEN Microplanner, let us know!



coite@crosscut.io



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African Region**

THANK YOU





Granular Mapping of Schistosomiasis KENYA

Wyckliff Omondi

Assistant Director of Medical Parasitology &
Head, Vector Borne & Neglected Tropical
Diseases-MoH



The Breaking Transmission Strategy (BTS) – Kenya

A national strategy led by the Ministry of Health to eliminate key NTDs:

Schistosomiasis

Soil-transmitted Helminthiasis (STH)

Lymphatic Filariasis

Trachoma

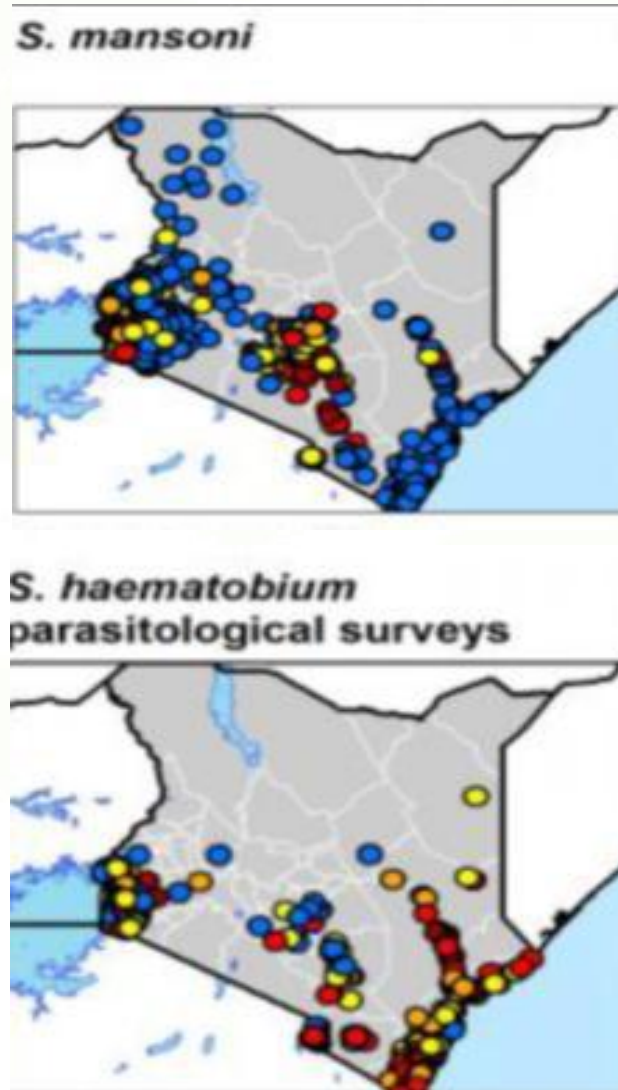
BTS Pillars:

1. Increase MDA coverage in all IU's
 2. Expand NTD WASH-
 3. Interventions
- Mainstream BCC



Granular Mapping of Schistosomiasis in Kenya

Focus on
Schistosomiasis,
a highly focal
NTD needing
detailed data

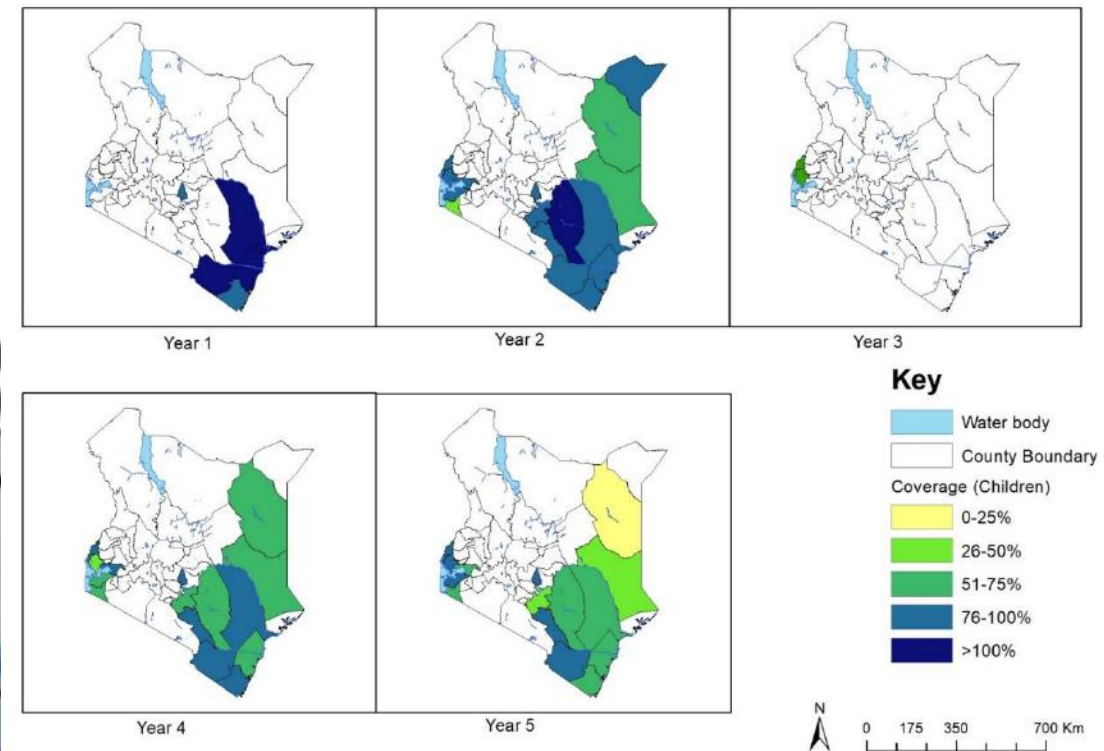


Prevalence (%)



School based deworming (2012-2017)

Schistosomiasis Treatment Coverage (Children): Year 1 to 5



EXPANDED SPECIAL PROJECT
FOR ELIMINATION OF
NEGLECTED TROPICAL DISEASES

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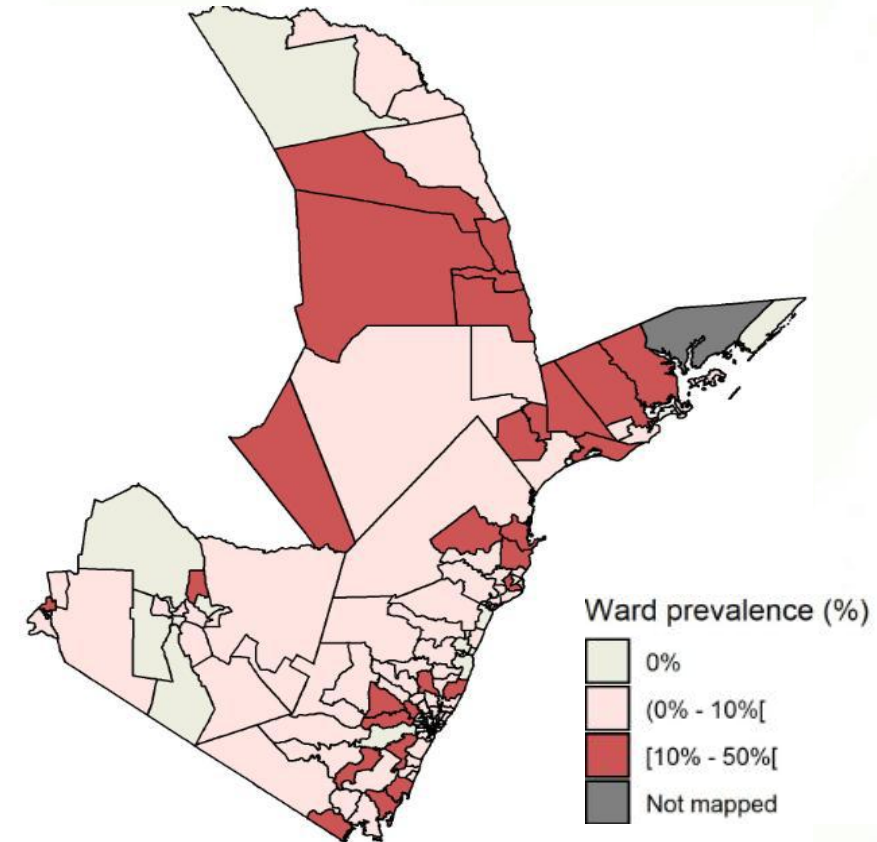
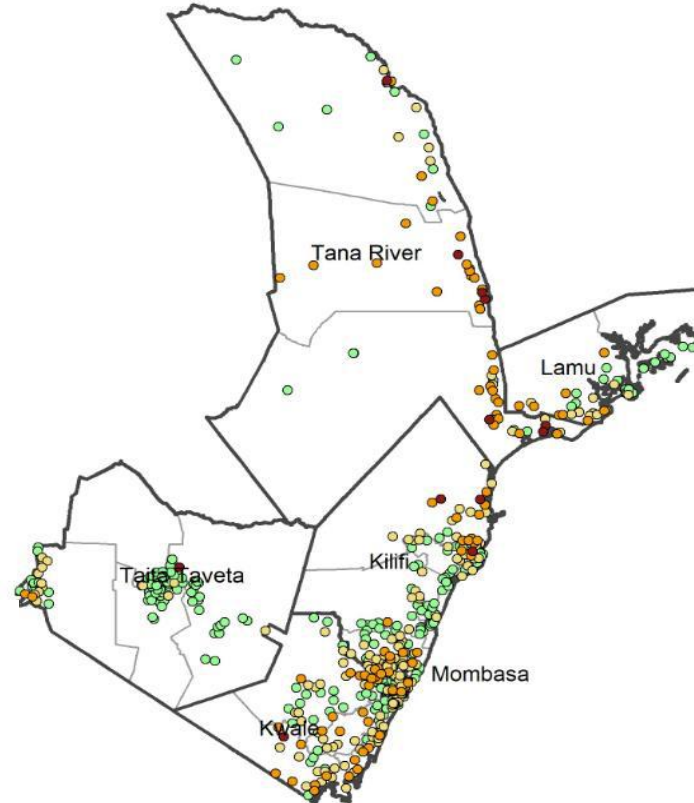
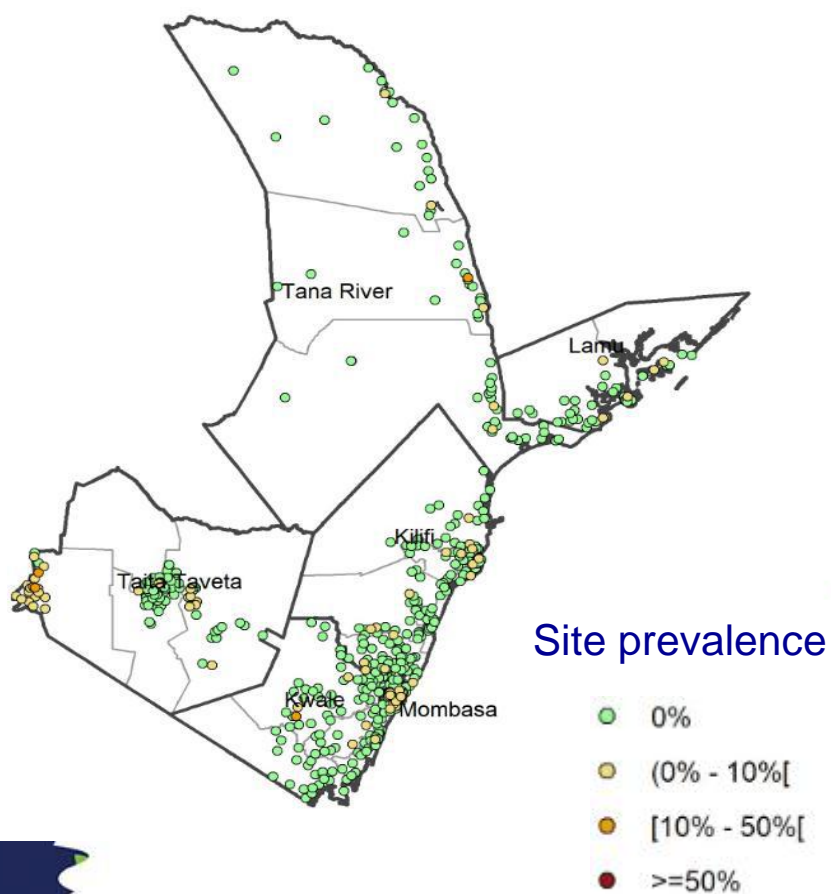
Why Granular Mapping?

- Schistosomiasis is **highly localized**—broad surveys may miss hotspots
- Prior district-level mapping led to over-/under-treatment
- Granular data at **ward/sub-county** level ensures accurate MDA targeting
- Reduces wastage and improves health equity

Sampling Design Overview

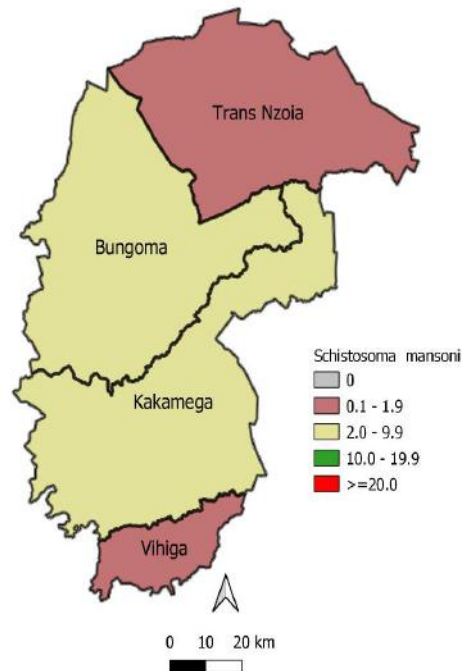
- **Coastal Region:** Community-based; 645 villages, 129 wards
 - **Western Region:** School-based; 755 schools, 155 wards
 - **Lake Region:** School-based; 900 schools, 180 wards
 - Target group: 8–14 year-olds (gender-balanced)
- Site selection
 - Based on:
 - a) Past transmission data
 - b) Historical surveys
Proximity to water bodies (suitability maps)
 - c) Purposeful sampling for better accuracy

Prevalence Maps and Implications Coast Region

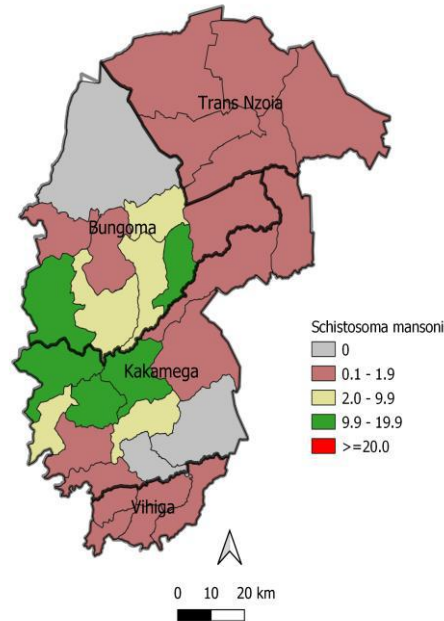


Prevalence Maps and Implications Western Region

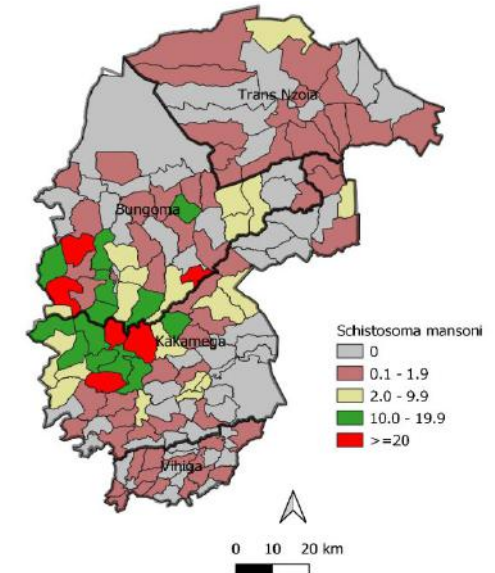
COUNTY LEVEL



SUB-COUNTY LEVEL

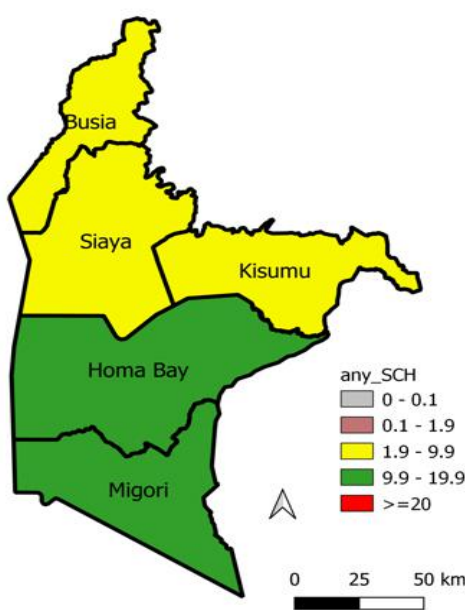


WARD LEVEL

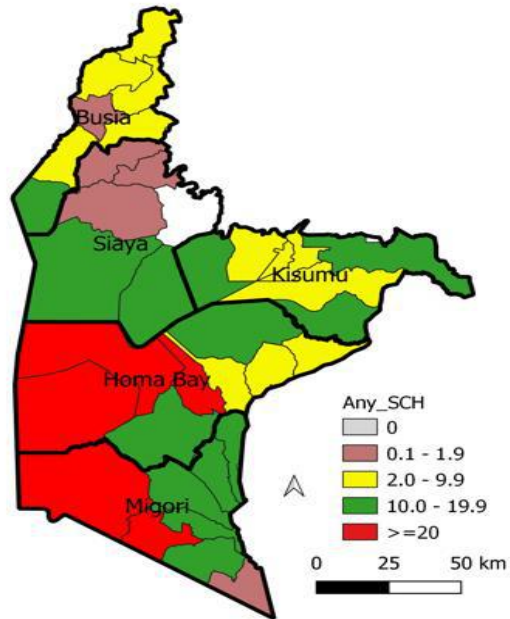


Prevalence Maps and Implications Lake Region

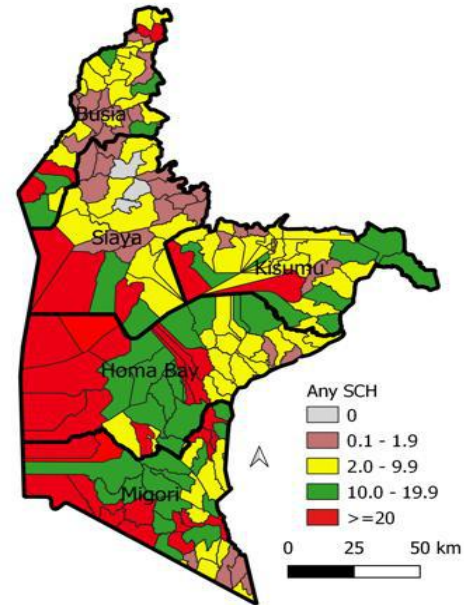
COUNTY LEVEL



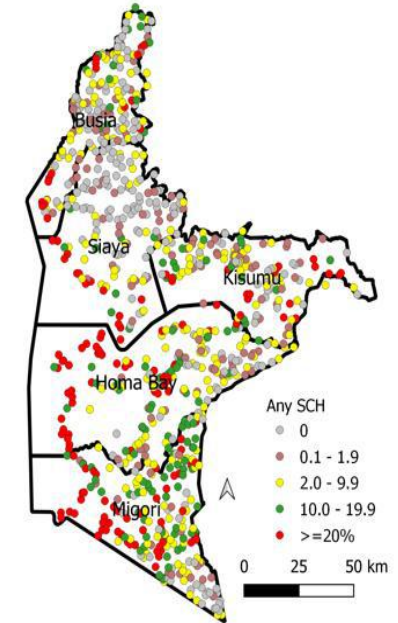
SUB-COUNTY LEVEL



WARD LEVEL



SITE LEVEL



Utilization of Data – Coastal Example

- Mapping in Oct/Nov 2020 → informed MDA planning in Mar/Apr 2021
- Expanded treatment from 13 IUs to 22 IUs
- Adjusted target population from 196K to 2.1M SAC
- Evidence-driven expansion led to better resource use and coverage

Introduction to Schistosomiasis Practical & Precision Assessments (SPPA)

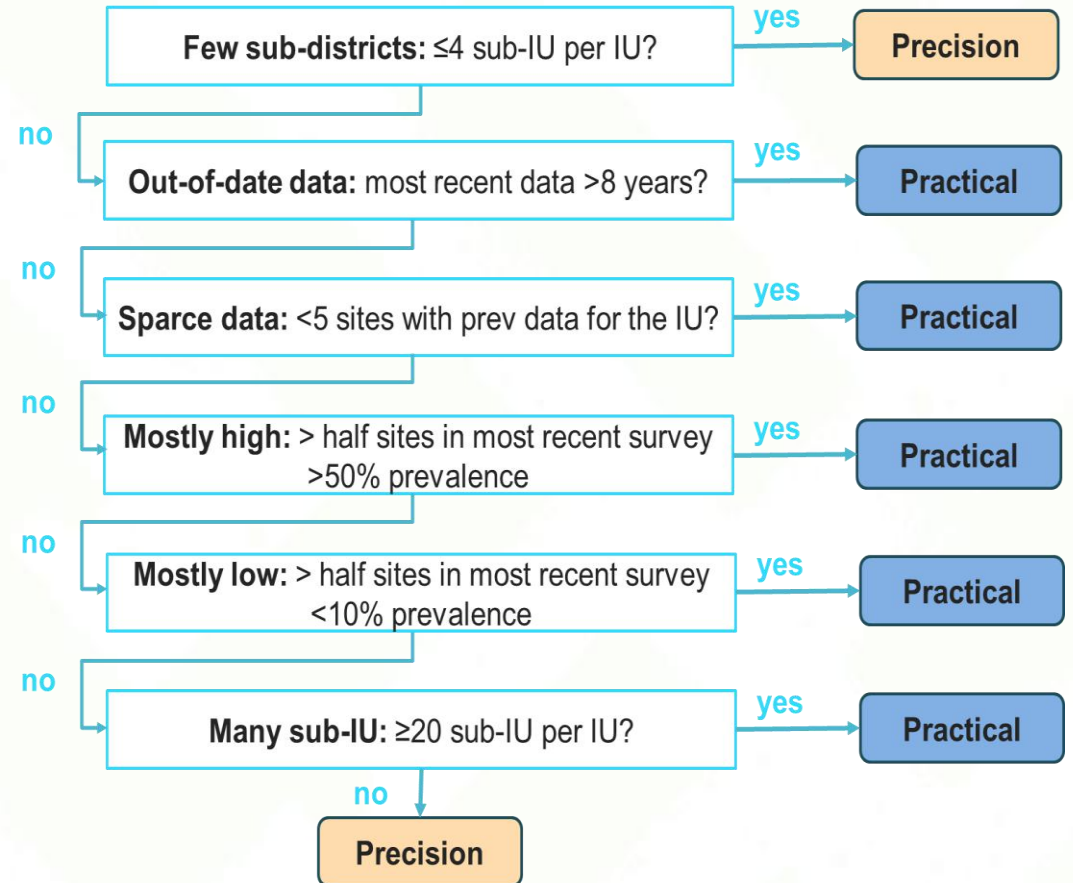
Two stages:

- **Practical Assessments** – Is prevalence uniform across the district?
- **Precision Assessments** – Identify high/low prevalence wards within

mixed areas

SPPA Methodology

- School selection tool with stakeholder validation
- Multi-layered school and village selection:
 - i. Historical transmission data
 - ii. Proximity to water bodies
 - iii. Stakeholder input



Stage 1: Practical Assessment

15 sites x 30 SAC @ IU
by systematic sampling

sites with $\geq 10\%$ prevalence:
8 - 15

Program Decision:
Annual treatment for
each sub-IU in the IU

sites with $\geq 10\%$ prevalence:
2 - 7

Program Decision:
Treatment decisions at sub-IU
level, or else conduct
Precision Assessment

sites with $\geq 10\%$ prevalence:
0 - 1

Program Decision:
Maintain/reduced treatment
for each sub-IU in the IU

*Some SCH programs may
determine it is more
appropriate to start directly at
this stage*

Stage 2: Precision Assessment:

4 sites x 20 SAC @ sub-IU
by purposive sampling (in all sub-
IUs)

Program Decision:
Annual treatment
in sub-IU

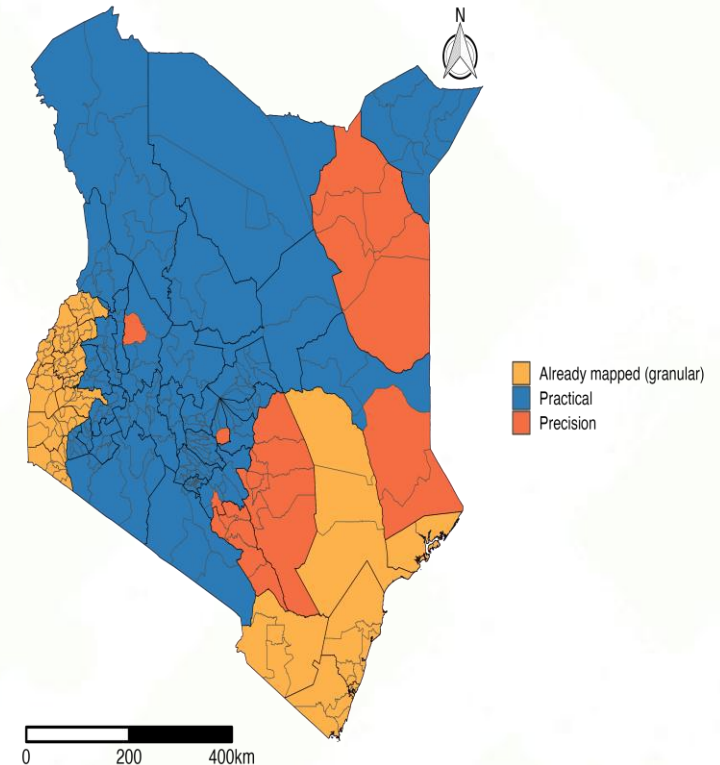
Mean prevalence
 $\geq 10\%$ across all sites

Mean prevalence
 $< 10\%$ across all sites

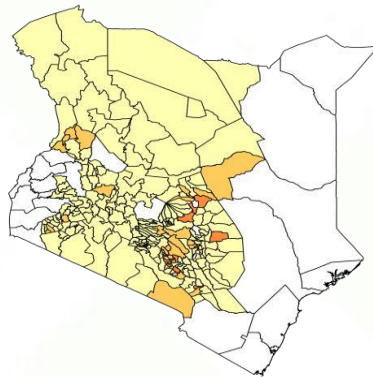
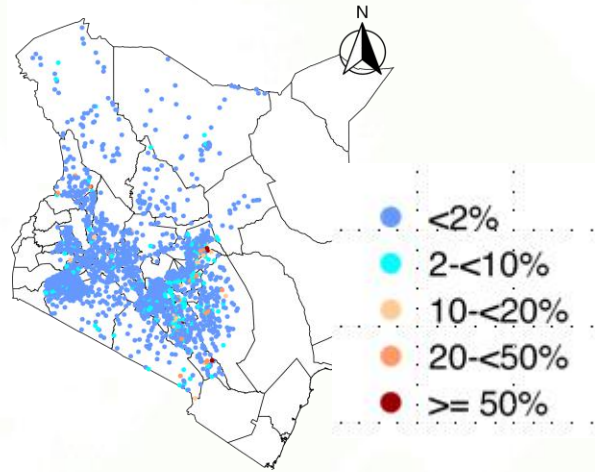
Program Decision:
Maintain/reduced
treatment in sub-district

Kenya's SPPA Progress

- 32 counties targeted for SCH assessments
- Data from 29 counties (91%) analyzed so far
- Data tools used: ESPEN Collect, cleaned with ESPEN support



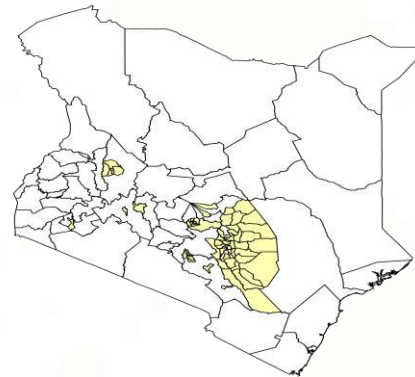
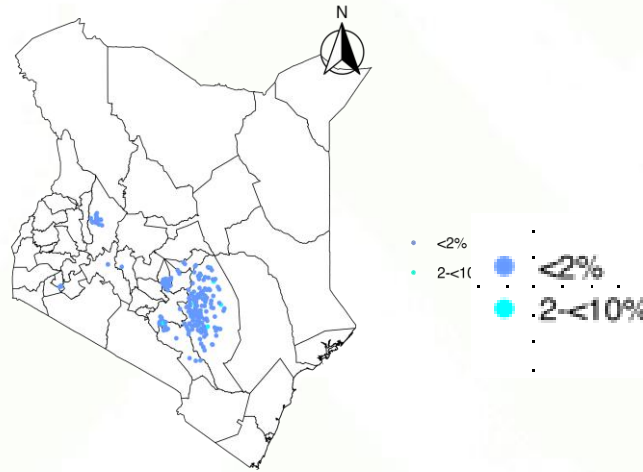
S. mansoni



Legend for *S. mansoni* prevalence:

- <2%
- 2-10%
- 10-50%

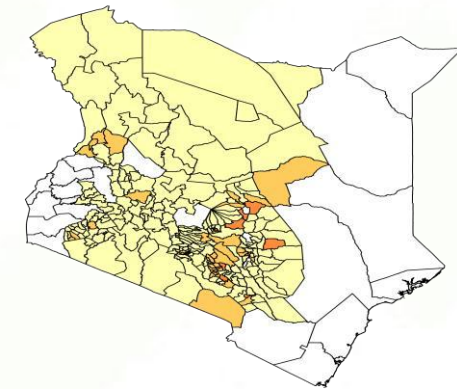
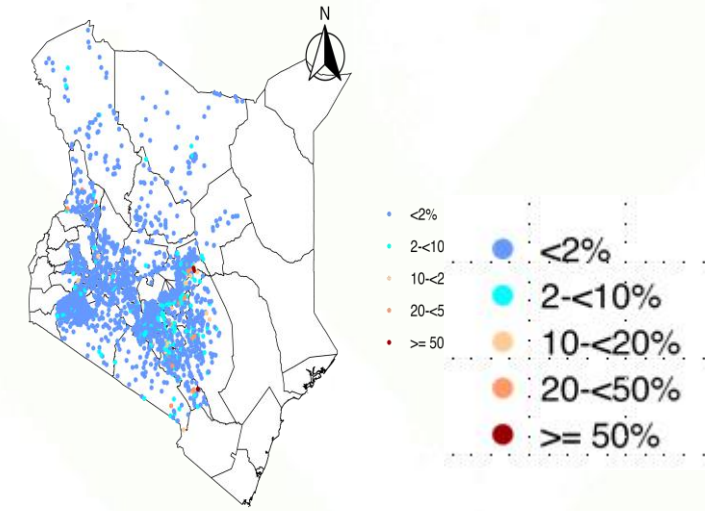
S. haematobium



Legend for *S. haematobium* prevalence:

- <2%
- 2-10%
- 10-50%

Any Schistosomiasis



Legend for Any Schistosomiasis prevalence:

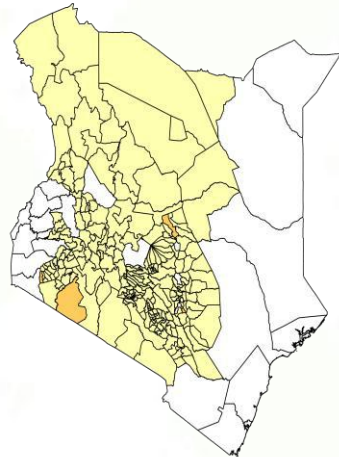
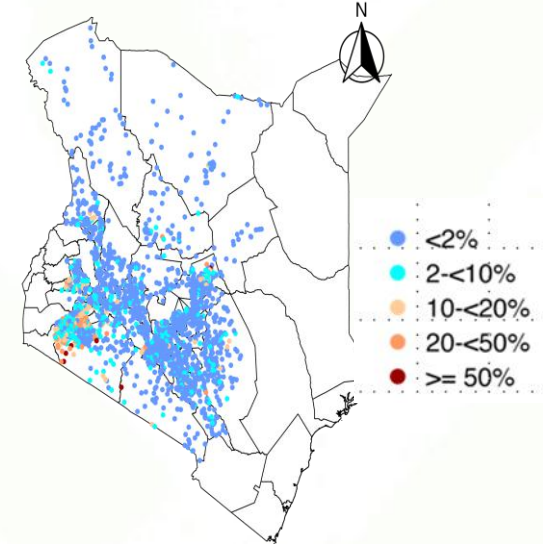
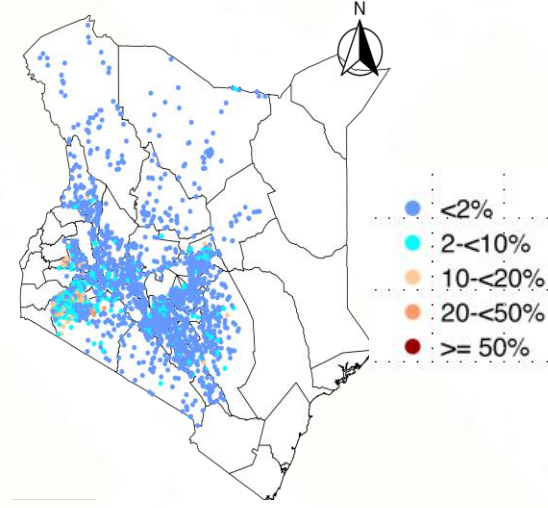
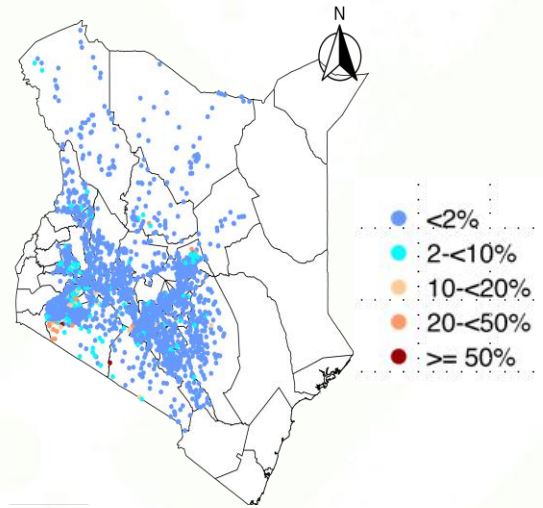
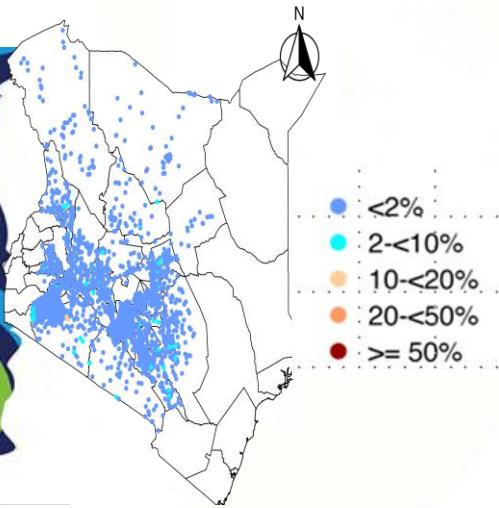
- <2%
- 2-10%
- 10-50%

Hookworm

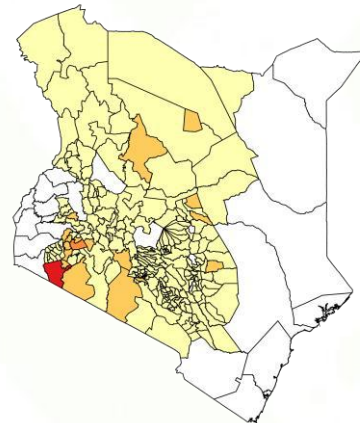
Trichuris trichiura

Ascaris lumbricoides

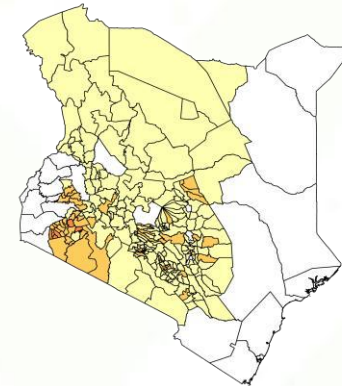
Any Soil Transmitted Helminth



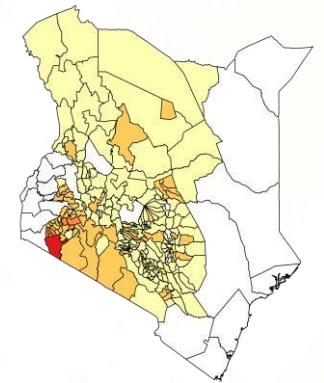
<2% 2-10%



<2% 2-10% 10-20% 20-50%



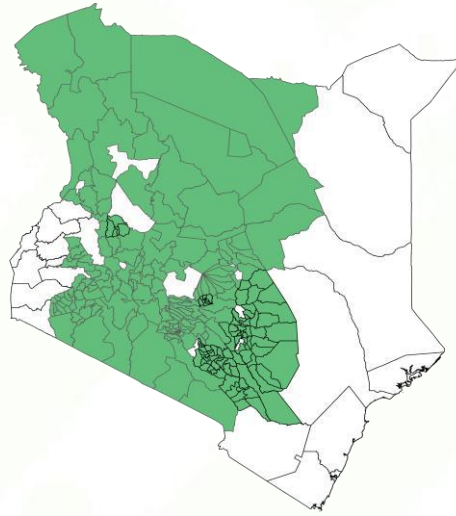
<2% 2-10% 10-20%



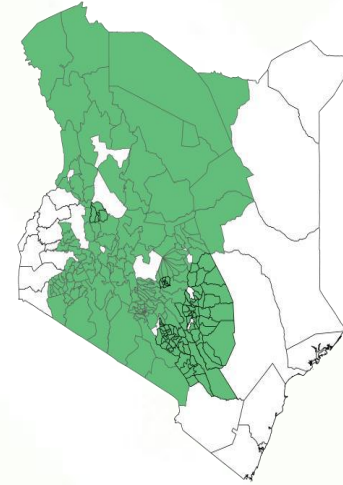
<2% 2-10% 10-20% 20-50%

Soil Transmitted Helminths

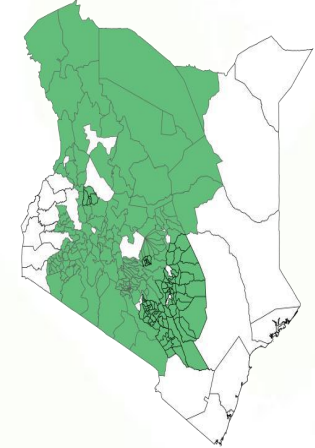
Hookworm



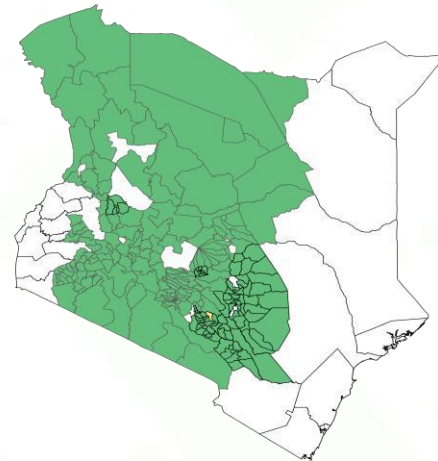
Trichuris trichuria



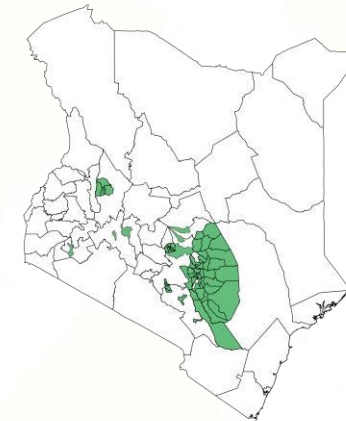
Ascaris lumbricoides



S. mansoni



S. haematobium



Schistosomiasis

Way Forward & Recommendations

- Institutionalize SPPA results for MDA planning
- Integrate mapping data into KHIS and NTD dashboards
- Use granular data for resource allocation and advocacy





Acknowledgments



NEGLECTED TROPICAL DISEASES
SUPPORT CENTER



REPUBLIC OF KENYA



MINISTRY OF HEALTH

BILL & MELINDA
GATES foundation



African Institute for
Health and Development

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



EXPANDED SPECIAL PROJECT
FOR ELIMINATION OF
NEGLECTED TROPICAL DISEASES

- Joseph Oloo
- Maurice Odiere
- Mutono Nyamai
- Thumbi Mwangi
- Irene Chami
- Juma Chitiavi
- Wyckiliff Omondi
- Florence Wakesho
- Rachel Pullan
- Penelope Vounatsou
- Katie Gass
- Balla Moussa Keita
- Stella Kepha
- Fiona Fleming
- Daniel Gerber
- Joseph Timothy
- Timothée Rondez
- Sascha Gummin
- Amadou Garba
- Pauline Mwinzi
- Upendo Mwingira
- Evan Secor
- Peter Diggle
- Charlie King, David Rollinson
- Nebe Obliageli
- Darin Evans
- Christy Hanson

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Outil Pratique et de Précision pour l'Évaluation de la Schistosomiase : Perspectives de la mise en œuvre au Sénégal

Dr Ndeye Mbacké KANE,
Coordonnateur Programme MTN Sénégal

PLAN

1

CONTEXTE ET JUSTIFICATION



2

PROCESSUS ET METHODOLOGIE



3

EXPERIENCE MISE EN OEUVRE ET RESULTATS



4

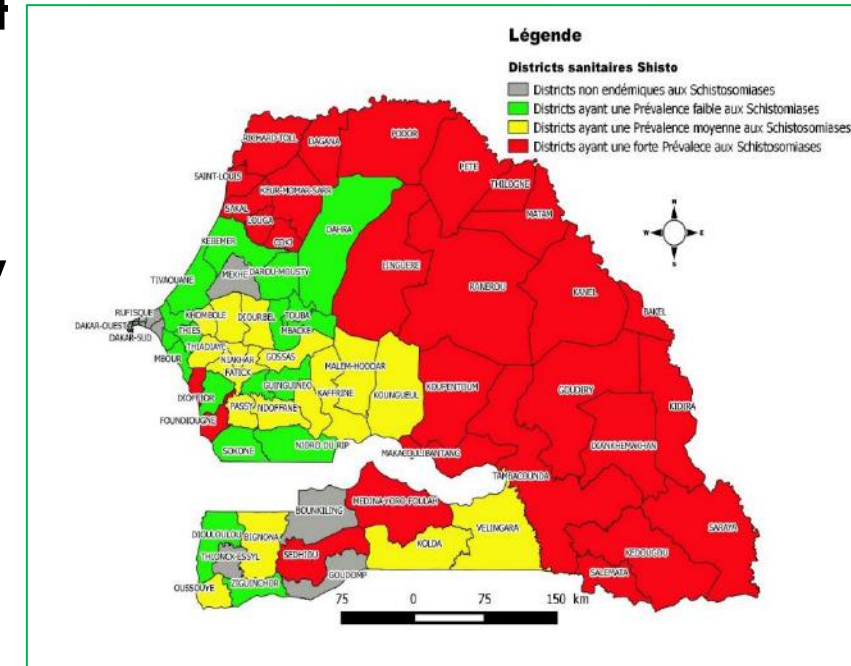
PERSPECTIVES ET OPPORTUNITES





Contexte

- ★ Sénégal inscrit dans une dynamique de contrôle et élimination SCH
- ★ SCH problème majeur de santé publique au Sénégal, encore exacerbé construction barrages agricoles
- ★ Endémique à 62 DS/ 79 au Sénégal (cartographie 2013)
- ★ Maladie focale avec prévalences variables par village
- ★ Efforts → progrès significatifs dans la lutte contre la SCH,
↗ couverture traitements, ↘ risque sur traitement et en optimisant l'impact économique



Carte endémicité base SCH
au Sénégal

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Justification

- ★ **OMS (2022) a recommandé MDA communautaire selon niveau de prévalence**
- ★ **Disponibilité limitée dons de PZQ et quantité insuffisante pour couvrir tous les groupes à risque → passage traitement district au sous-district**
- ★ **Sénégal a adopté nouvelles directives de l'OMS**
- ★ **Problème existence de prévalence au sous district**
- ★ **PNLMTN a opté depuis 2022 évaluations pratiques et de précision → analyser prévalences au niveau sous-districts et faciliter passage mise en œuvre niveau district à une approche plus ciblée au sous-district**
- ★ **L'outil SPPA soutient l'analyse et l'adaptation des stratégies de TDM SCH, facilitant une prise de décision éclairée tout en intégrant d'autres paramètres comme WASH**

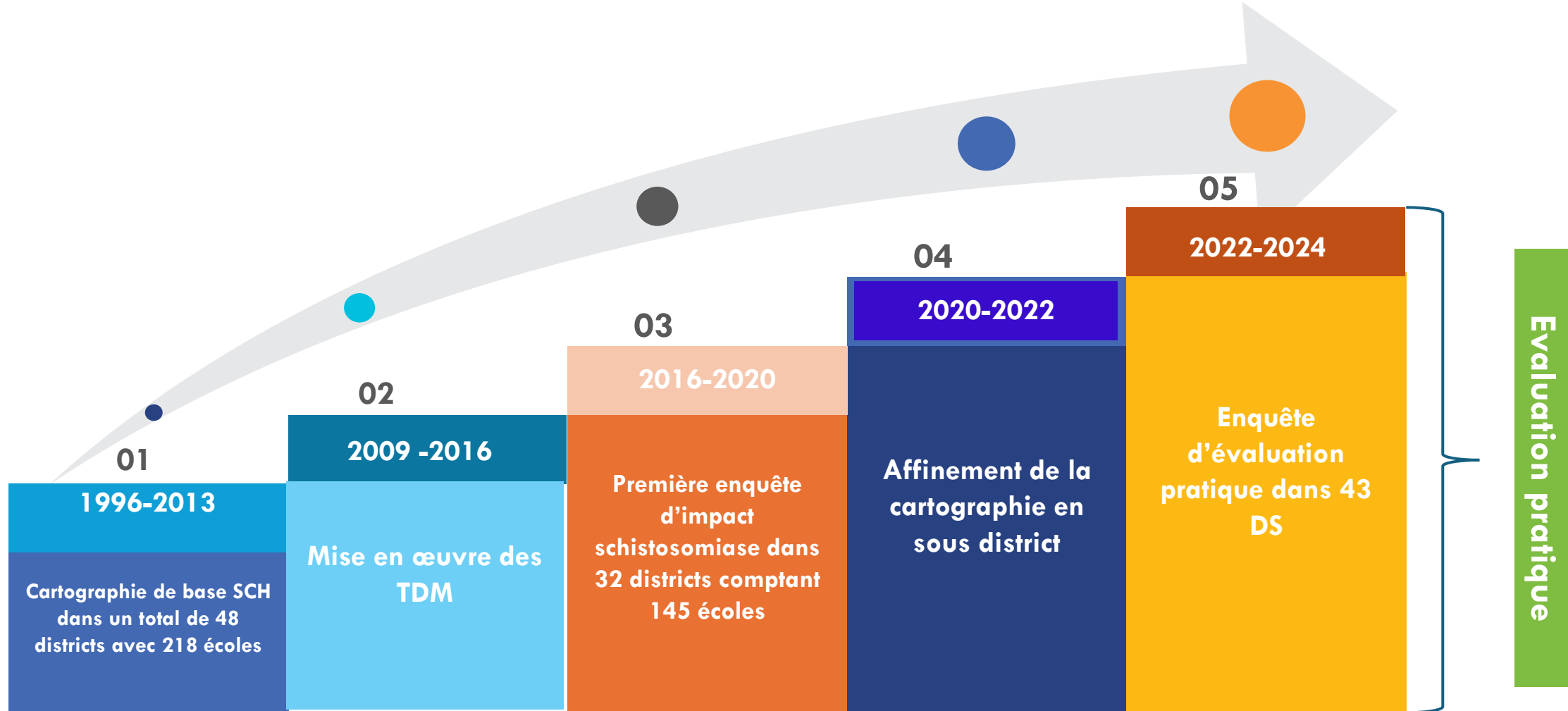




PROCESSUS & METHODOLOGIE

Processus

De la cartographie de base aux évaluations pratiques



Changement de paradigme l'endémicité d'une mise en œuvre de district à sous-district

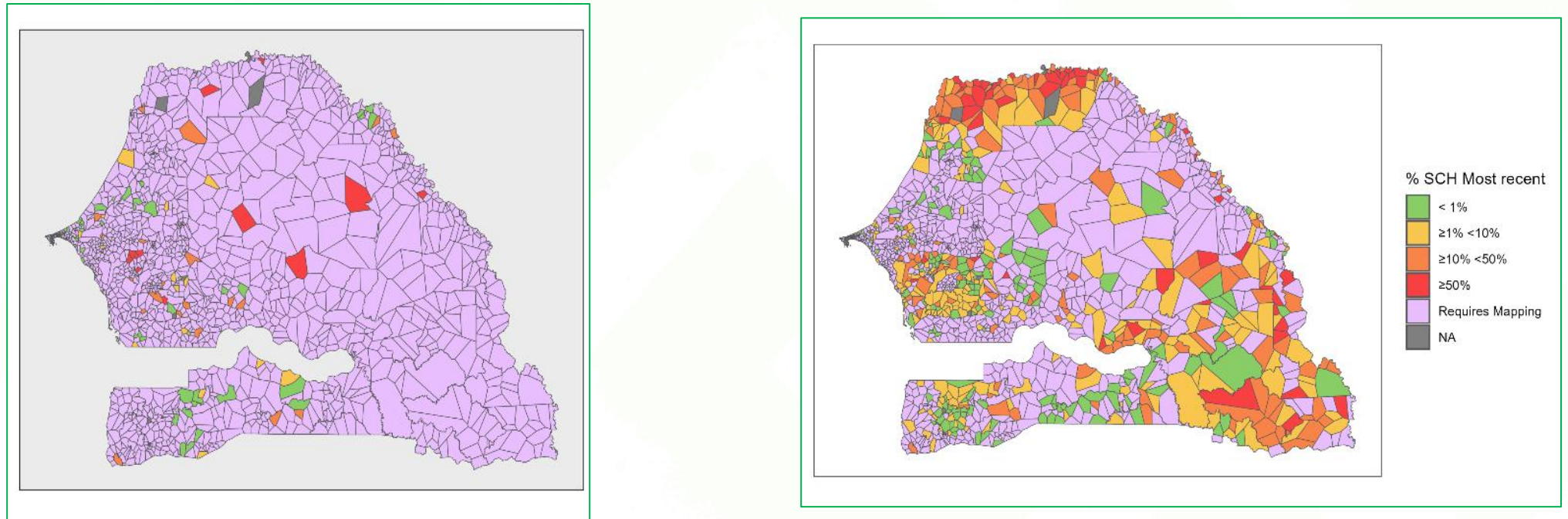


Figure : Sub-district-level baseline (1996-2003) and recent (2024)

Méthodologie

Approche MEO



Protocole et avis éthique

Formation des équipes

Consentement et sensibilisation

Elaboration plan progression

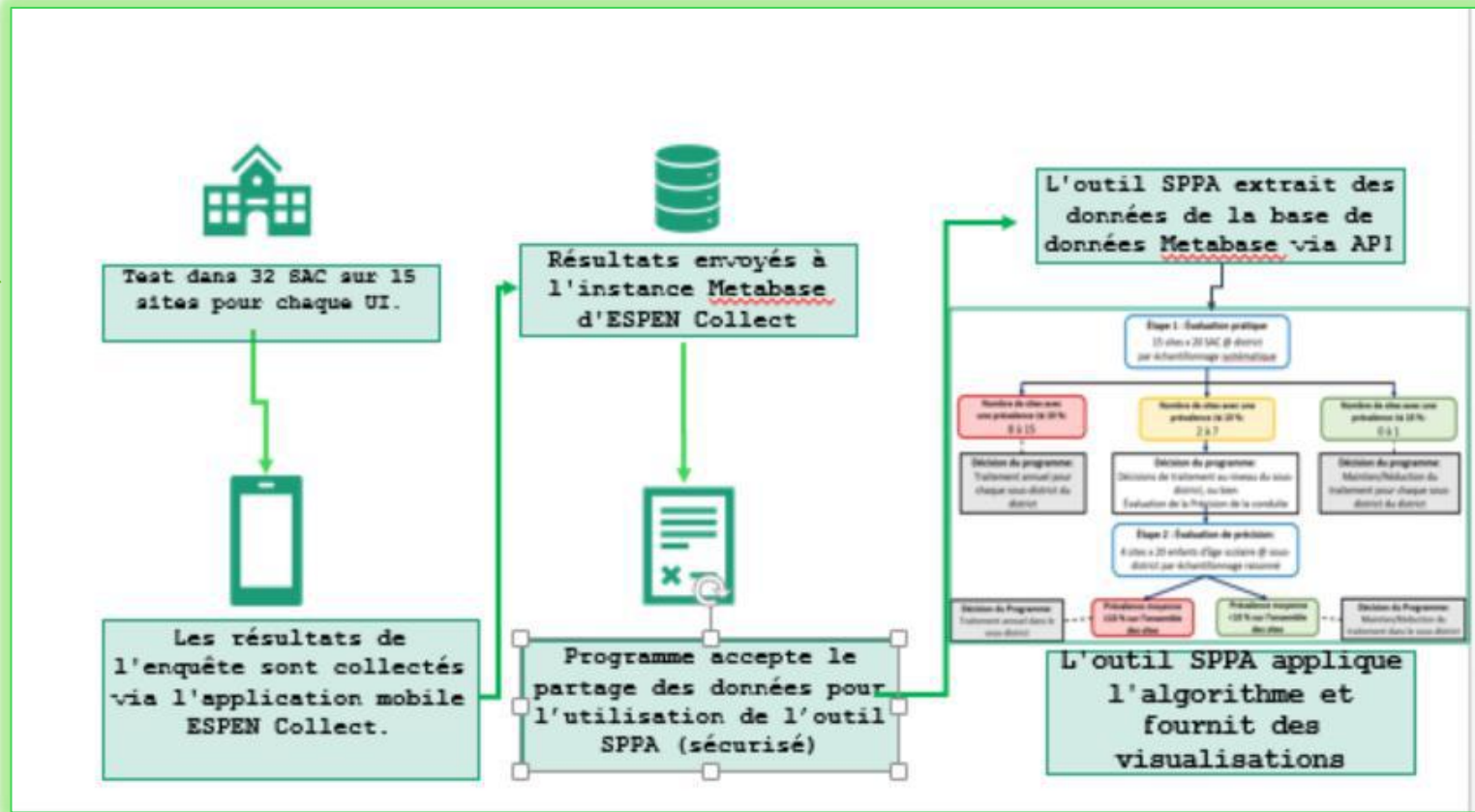
Collecte des échantillons

Analyse diagnostique

Classification et prise de décision

Traitement et suivi

FLUX DE COLLECTE DE DONNEES



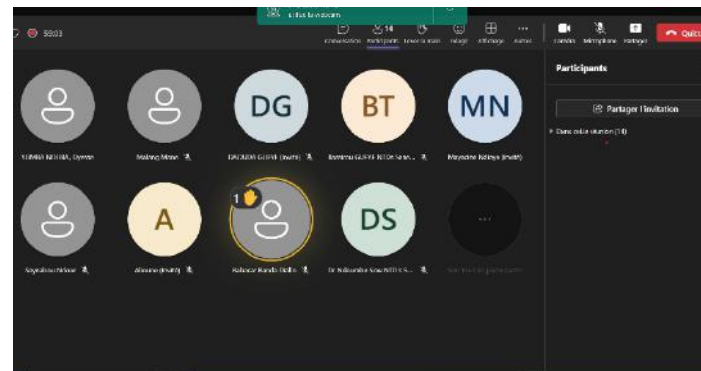
Formation des équipes laboratoires et gestionnaires de données



Collecte et traitement des échantillons et données



Réunion d'orientation de l'équipe MTN par celle ESPEN Collect



Traitement des cas positifs et réunion de partage des résultats avec les DS



Supervision et sensibilisation





RESULTATS



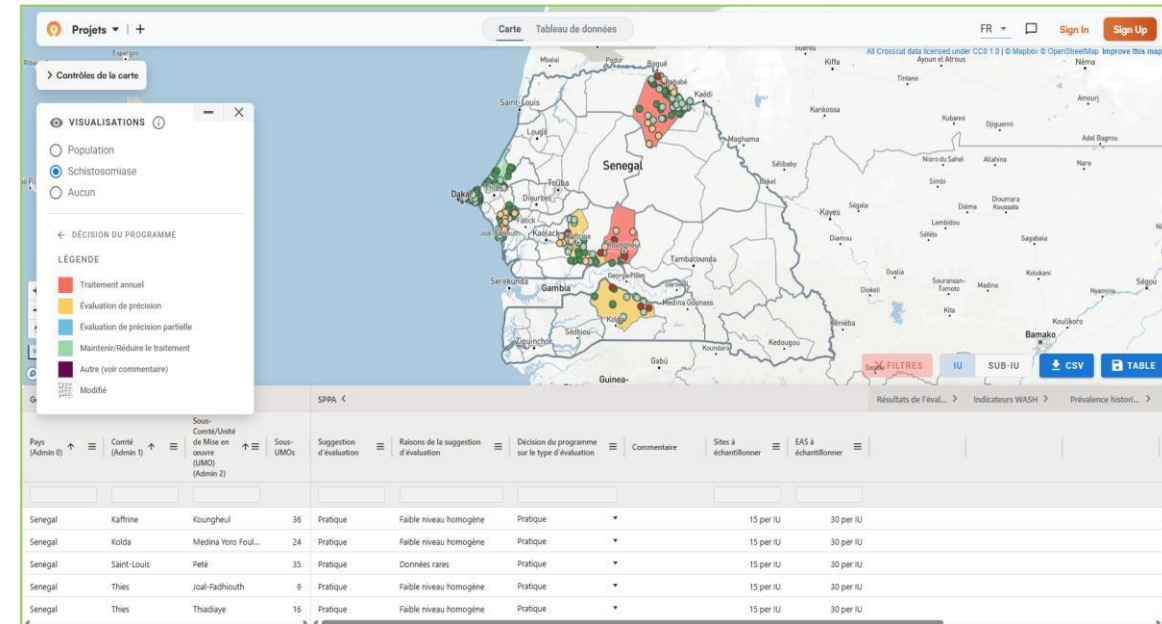
Résultats 1 /3

Application automatique de l'algorithme SPPA

Géographie <				SPPA >		Résultats de l'évaluation pratique <		
Pays (Admin 0)	Comté (Admin 1)	Sous-Comté/Unité de Mise en œuvre (UMO) (Admin 2)		Sites avec une prévalence $\geq 10\%$	Sites ayant une prévalence $< 10\%$	Action suggérée	Décision du programme	Commentaire
							(3) Maintenir/Réduire le traitement, Éval	
Senegal	Dakar	Diamniadio	14	0	15	Maintenir/Réduire le traitement	Maintenir/Réduire le traitement	
Senegal	Dakar	Guédiawaye	13	0	14	Maintenir/Réduire le traitement	Traitement annuel	
Senegal	Dakar	Mbao	14	0	12	Maintenir/Réduire le traitement	Maintenir/Réduire le traitement	
Senegal	Dakar	Pikine	14	0	3	Maintenir/Réduire le traitement	Évaluation de précision	
Senegal	Dakar	Rufisque	12	0	15	Maintenir/Réduire le traitement	Évaluation de précision partielle	
							Autre (voir commentaire)	

- L'outil analyse le nombre de sites avec une prévalence $\geq 10\%$ et recommande si une UI doit être considérée pour un traitement annuel, en maintenant ou en réduisant la fréquence de traitement actuelle, ou pour procéder à une évaluation de précision.
- Les utilisateurs peuvent modifier l'algorithme si nécessaire pour adopter à leurs réalités.

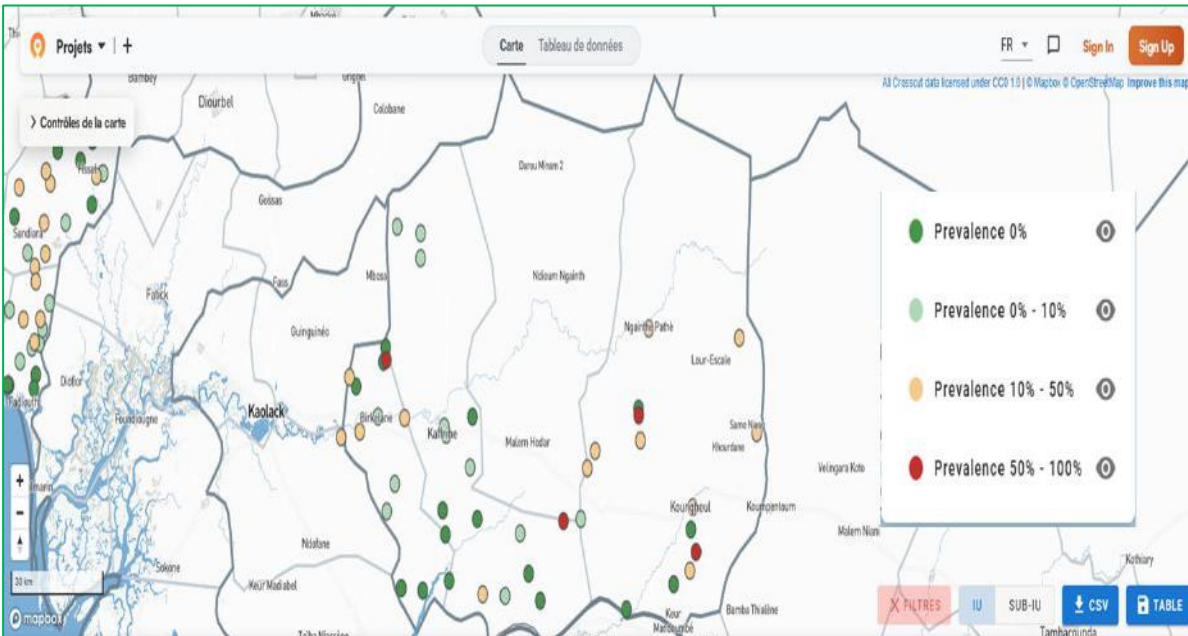
Affichage des décisions sur carte et Tableau



- Les décisions des utilisateurs concernant les prochaines étapes sont affichées sur la carte.
- Fournit un résumé rapide de l'endroit où les ressources devront être allouées pour le traitement et les efforts d'évaluation ultérieurs.

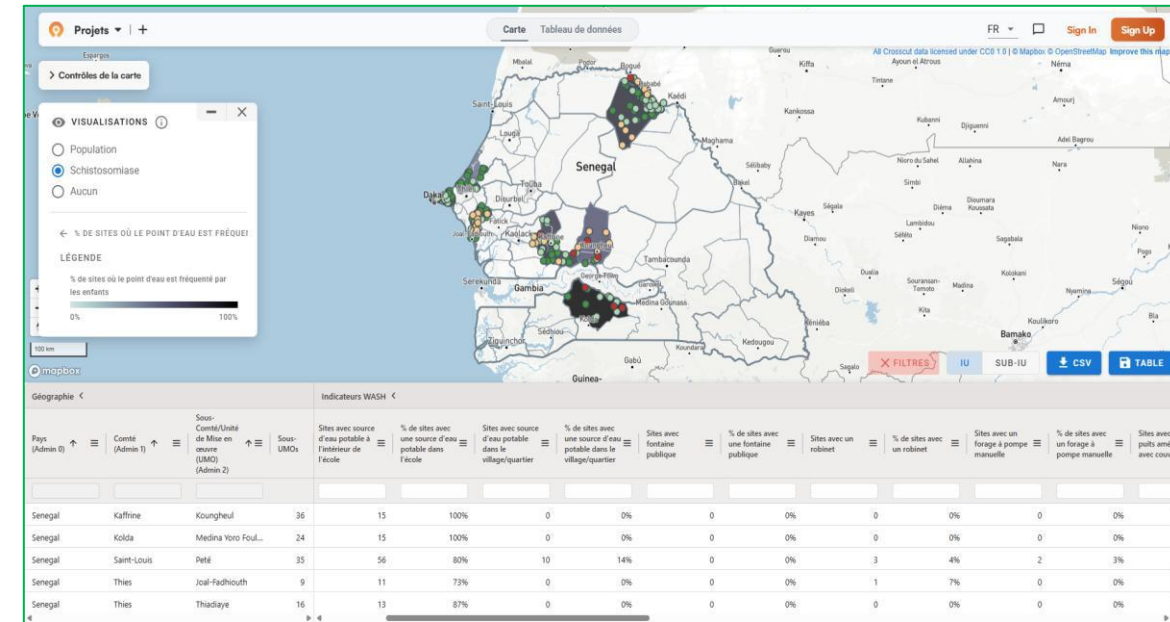
Résultats 2/3

Affichage des prévalences



- L'outil représente chaque site d'enquête comme un point sur la carte coloré par le taux de prévalence calculé à partir des résultats de l'enquête.
- Permet à l'utilisateur d'évaluer les tendances géographiques des taux de prévalence qui ne seraient pas visibles au niveau des agrégations de l'UI.

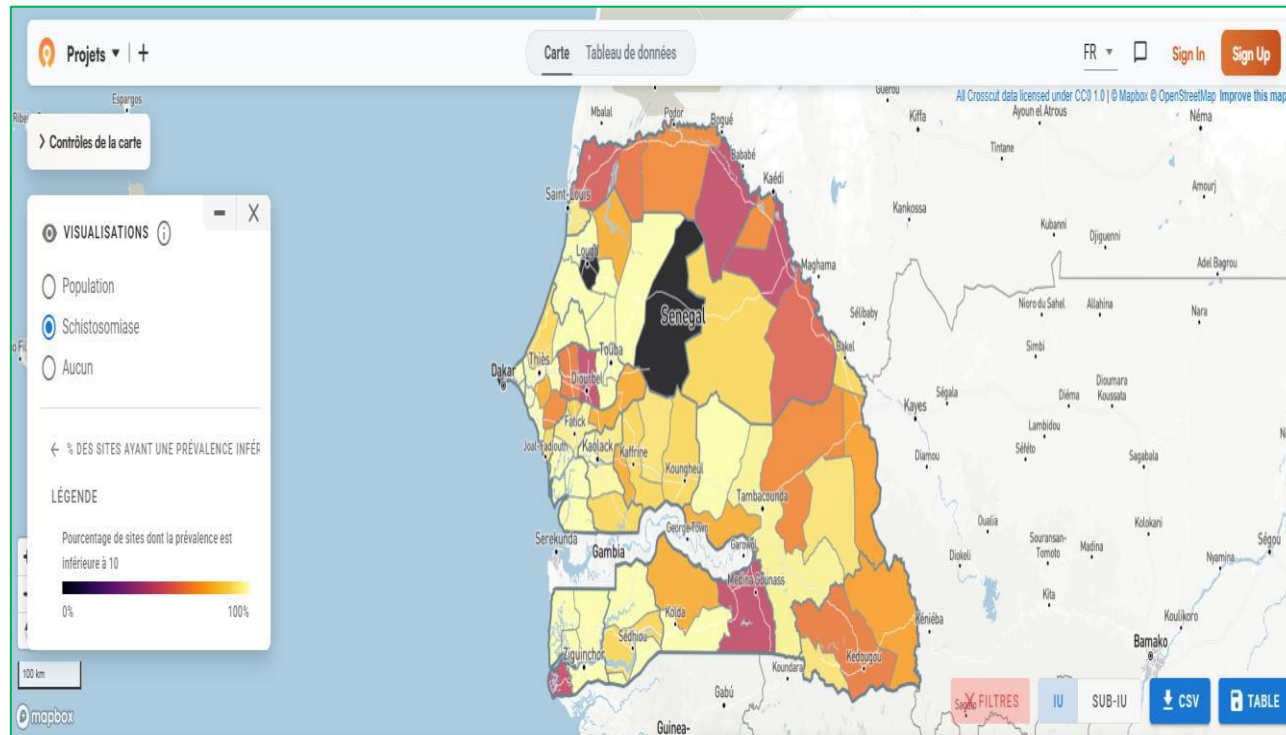
Analyse des indicateurs WASH



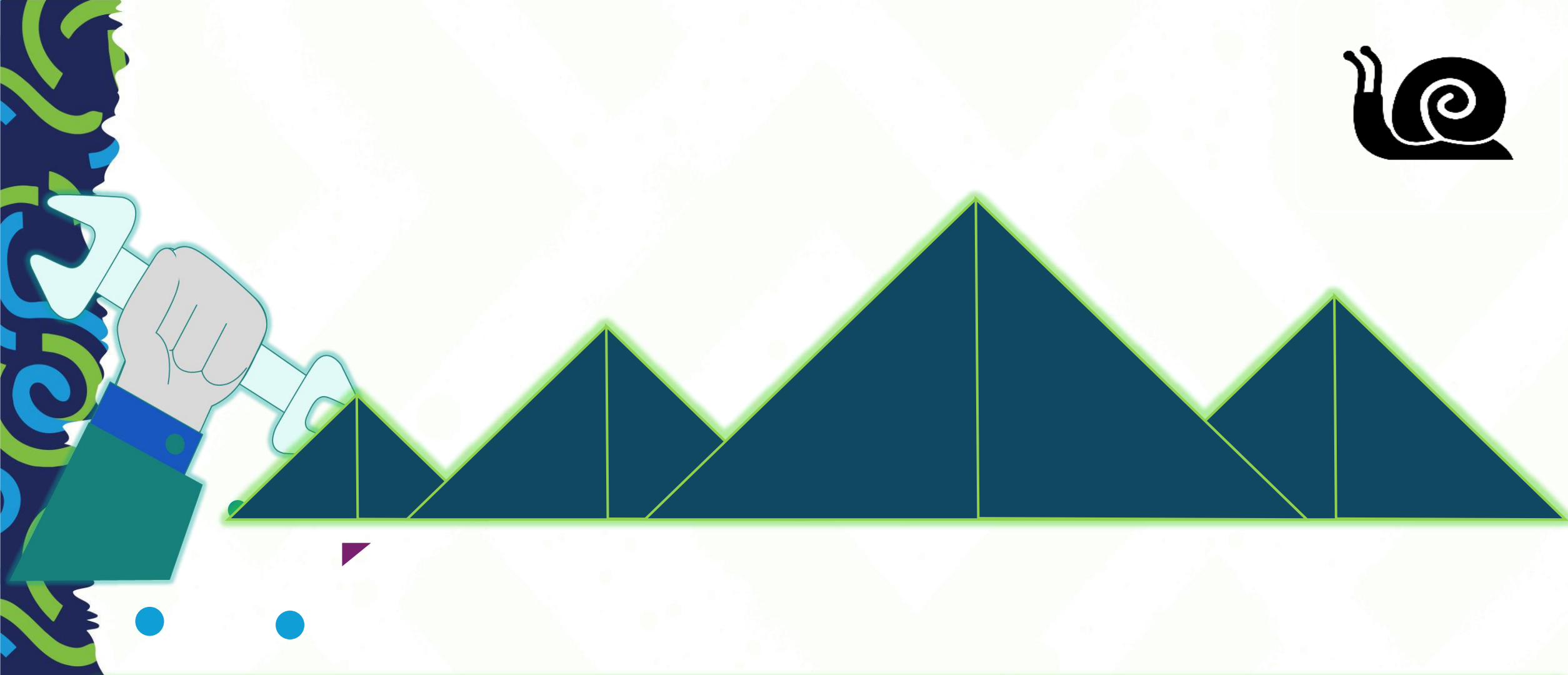
- Les indicateurs WASH de l'enquête sont agrégés au niveau de l'UI et présentés dans le tableau avec des cartes visuelles supplémentaires.
- Permet aux utilisateurs d'évaluer les corrélations entre la prévalence et la proximité de différents types de sources d'eau.

Résultats 3/3

Affichage des données historiques sur la prévalence



- Les données historiques sur la prévalence sont extraites du portail ESPEN et sont disponibles sous forme de tableaux et de couches cartographiques.
- Permet à l'utilisateur de replacer les résultats actuels dans un contexte historique.



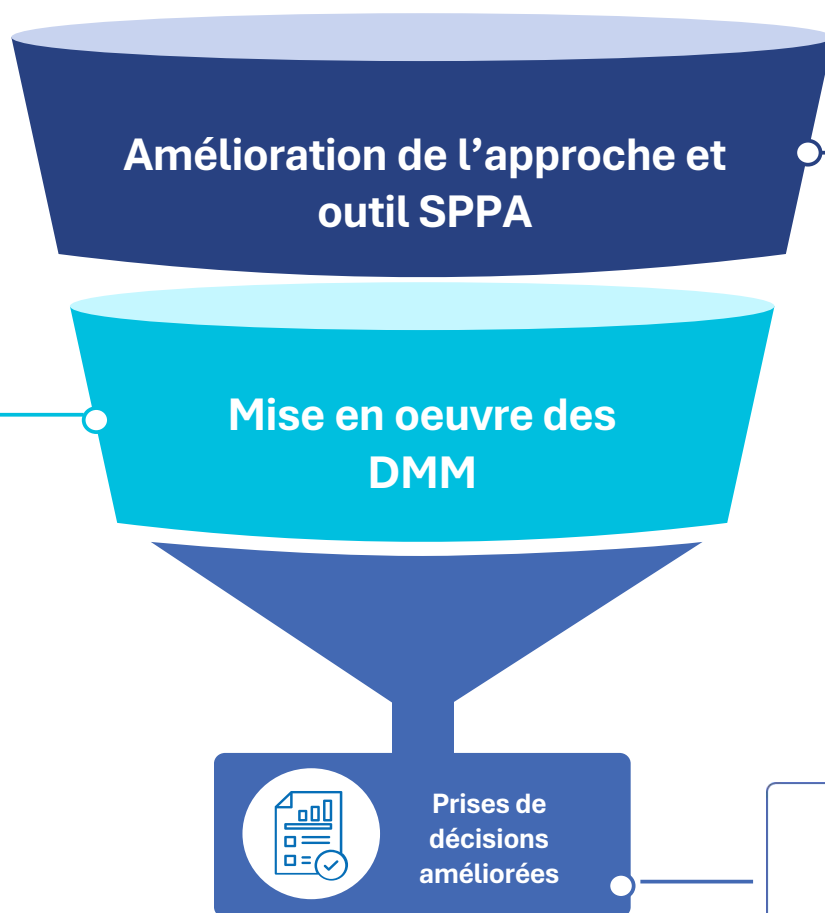
Perspectives & Opportunités

PERSPECTIVES ET OPPORTUNITES



Perspectives

- Ajouter les limites des sous-unités afin de soutenir la dernière étape de la SPPA, à savoir les résultats de l'évaluation de la précision
- Extension de la cible avec traitement des adultes dans les zones à forte endémicité
- Mise en œuvre des interventions WASH et LAV
- Mise à jour automatisé du SCH data_tool à partir du SPPA
- Interopérabilité JRSM et outil SPPA
- Extension de l'outil aux enquêtes STH



Opportunités

- Permet de classer les sous-districts avec précision en fonction du traitement.
- Les résultats obtenues ont aidé à guider et orienter les efforts du programme
- Soutient le plaidoyer pour une disponibilité suffisante de PRQ en démontrant l'évidence de besoin et utilité
- Triangulation des données prévalences et WASH

**Sénégal exempt
de MTN**



DIEU REDIEU

Merci à nos

PARTENAIRES



Health Break/ Poster Sessions



Harnessing AI & Data Analytics: Transforming NTD Management for Impact (plenary)



Harnessing AI & Data Analytics: Transforming NTD Management for Impact

Goal: To explore how Artificial Intelligence (AI) and data analytics can transform NTD management by improving surveillance, diagnostics, program planning, and decision-making, with a focus on AI-powered innovations for integrated skin NTDs, preventive chemotherapy (PC-NTDs), and enhanced data accessibility through the ESPEN GenAI Assistant.

Presentations:

- **Dr Jose A. Ruiz Postigo (WHO-HQ NTD):** *AI-Powered Surveillance for Integrated Skin NTDs: Advancing Early Detection and Monitoring*
- **Mr Ernest Mensah (Ghana MOH):** *MDA - Community ChatGPT AI tool*
- **Ms Namrata Tomar (Dimagi):** The ESPEN GenAI Assistant: Transforming Data Access and Decision-Making for NTD Programs

Presenters



Jose A. Ruiz Postigo has 29 years of experience working on neglected tropical diseases (NTDs), mostly in sub-Saharan Africa. Since 2013, he has been working at WHO headquarters, initially with the global leishmaniasis programme, and since 2020, leading digital innovation for Skin NTDs, including the development of a mobile app with AI capabilities and an online learning platform on NTDs.



Ernest Mensah is a distinguished Ghanaian public health professional specializing in the control and elimination of NTDs. Ernest is affiliated with the NTD Program at the Ghana Health Service as M&E officer, where he has contributed to various initiatives aimed at integrating NTD control activities into the national health system.



Namrata Tomar is a seasoned project manager and strategic leader in global health technology, currently working at **Dimagi**. She has extensive experience in digital health, public health systems, and AI-driven solutions, managing large-scale deployments across multiple countries in Africa and Asia.

AI-Powered Surveillance for Integrated Skin NTDs: Advancing Early Detection and Monitoring



Jose Antonio Ruiz-Postigo, MD, PhD

AI-Powered Surveillance for Integrated Skin NTDs: Advancing Early Detection and Monitoring



Home / Initiatives / WHO Initiative on artificial intelligence for skin conditions



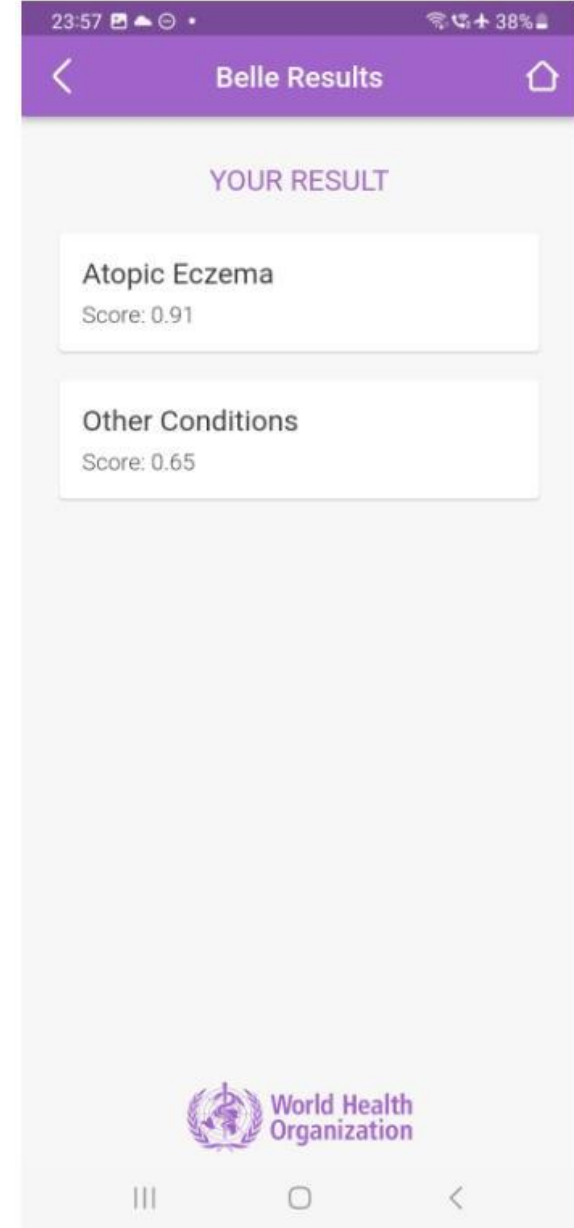
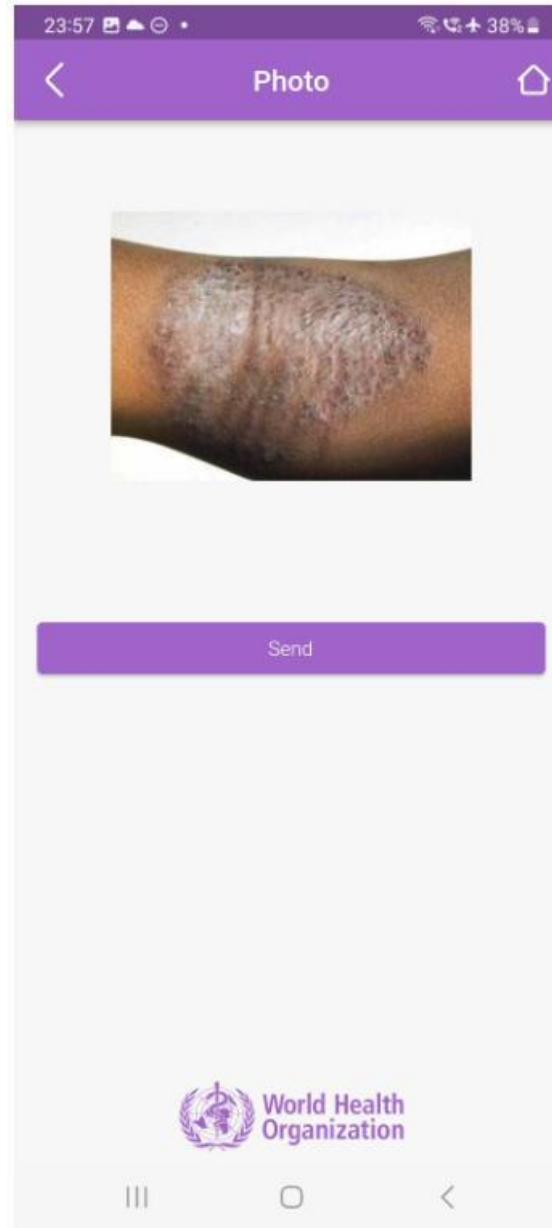
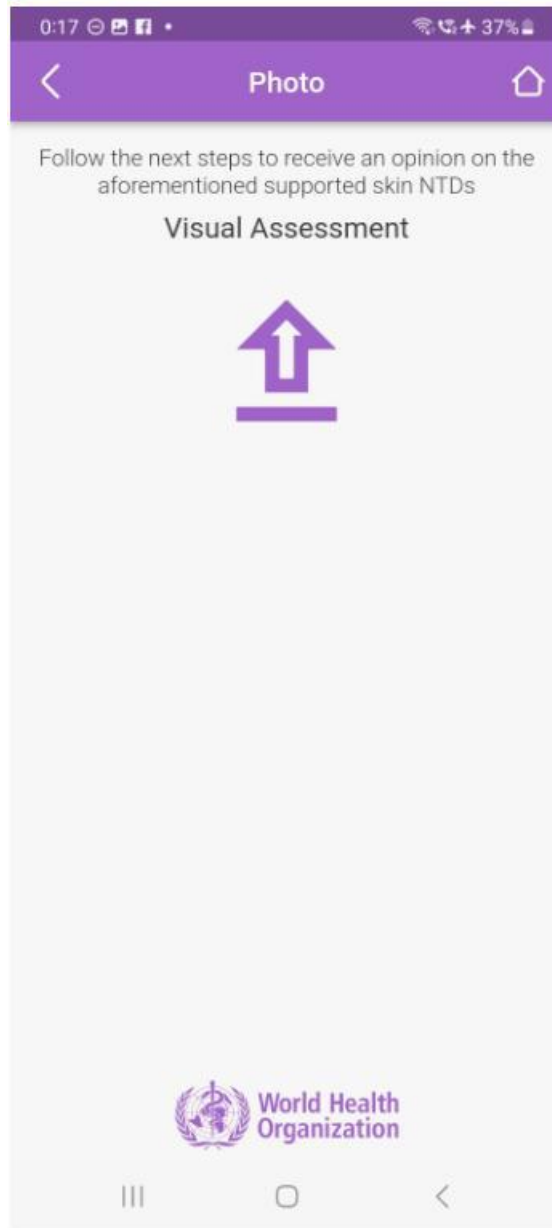
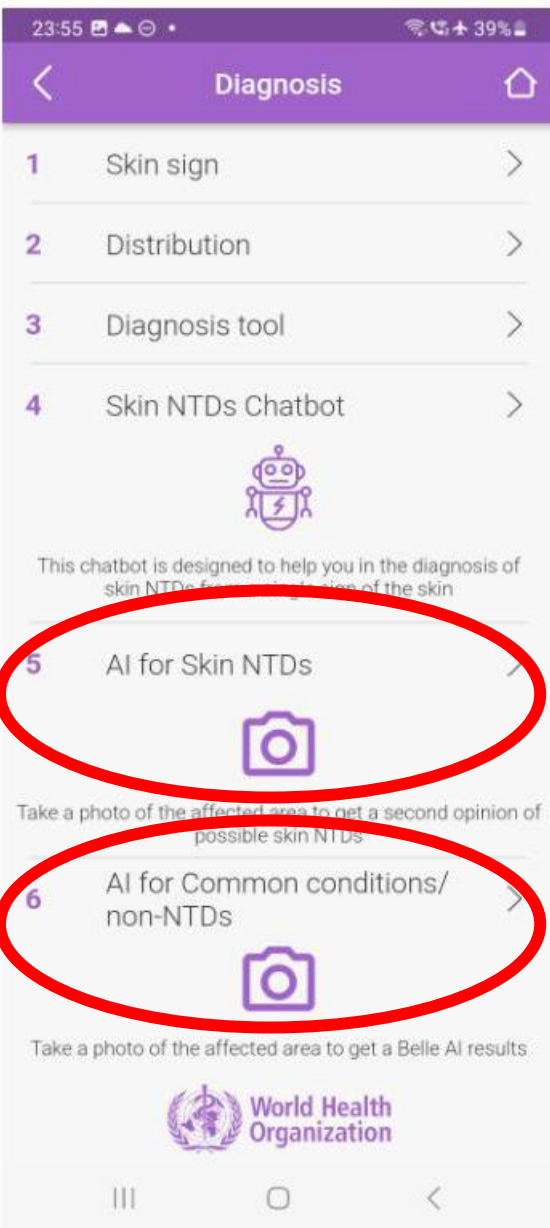
**Global Initiative on Artificial Intelligence for Skin
Conditions**

José Antonio Ruiz-Postigo, MD, PhD
WHO-Global NTD Programme

16th April 2025



Beta version: mobile app (v4)



Performance thresholds

Deep learning	95% and above beyond human level
Conventional machine learning	85% to 94% human expert level
Expert system	75% to 84% experienced human level
Less experienced human	50% to 74%
Primary care worker	below 50%, like primary care providers

The field assessment

Real-world clinical validation AI algorithms

- 1) **First-ever** real-world clinical validation on AI for 13 skin NTDs **AND** 24 common skin conditions
- 2) Location: **5 counties in Kenya**. April-November **2024**
- 3) 40 front-line health workers; non-dermatologists; **primary care providers**
- 4) A total of **605 images of skin lesions**, evaluated independently by **three dermatologists and the AI-based algorithms**
- 5) **Focus group discussions** to know the opinion of the users/clinicians

Preliminary results (three dermatologists)

Recall (sensitivity) = TP / TP + FN

	disease	sensitivity Kenya (13-Dec-24)	TP all 3 Derms	FN all 3 Derms
	Buruli ulcer	80%	8	2
*	Cutaneous leishmaniasis	96%	22	1
	Chromoblastomycosis	0%	0	1
*	Leprosy	75%	3	1
*	Lymphatic filariasis	100%	2	0
*	Mycetoma	100%	1	0
	Onchocerciasis	0%	0	4
	PKDL	0%	0	2
*	Scabies	90%	9	1
	Sporotrichosis	0%	0	1
*	Tungiasis	100%	2	0
	Yaws	80%	4	1
Overall		78%	51	14

Important!!

- **Absence of clinical** or
epidemiological information
about the patient for the AI and
the dermatologists

* Of public health importance
in Kenya

*Gold standard: **True Positive** if three dermatologists independently agreed on the disease*

Preliminary results (three dermatologists) (cont.)

Recall (sensitivity) = $TP / TP + FN$

disease	sensitivity Kenya 3 derms	TP 3 Derms	FN 3 Derms
Atopic eczema	77%	34	10
Contact eczema	45%	15	18
Folliculitis	67%	4	2
Herpes simplex	100%	2	0
Herpes zoster	100%	5	0
Pityriasis versicolor	82%	18	4
Psoriasis	45%	5	6
Seborrhoeic eczema	100%	3	0
Superficial fungal infections	67%	20	10

Overall

80%

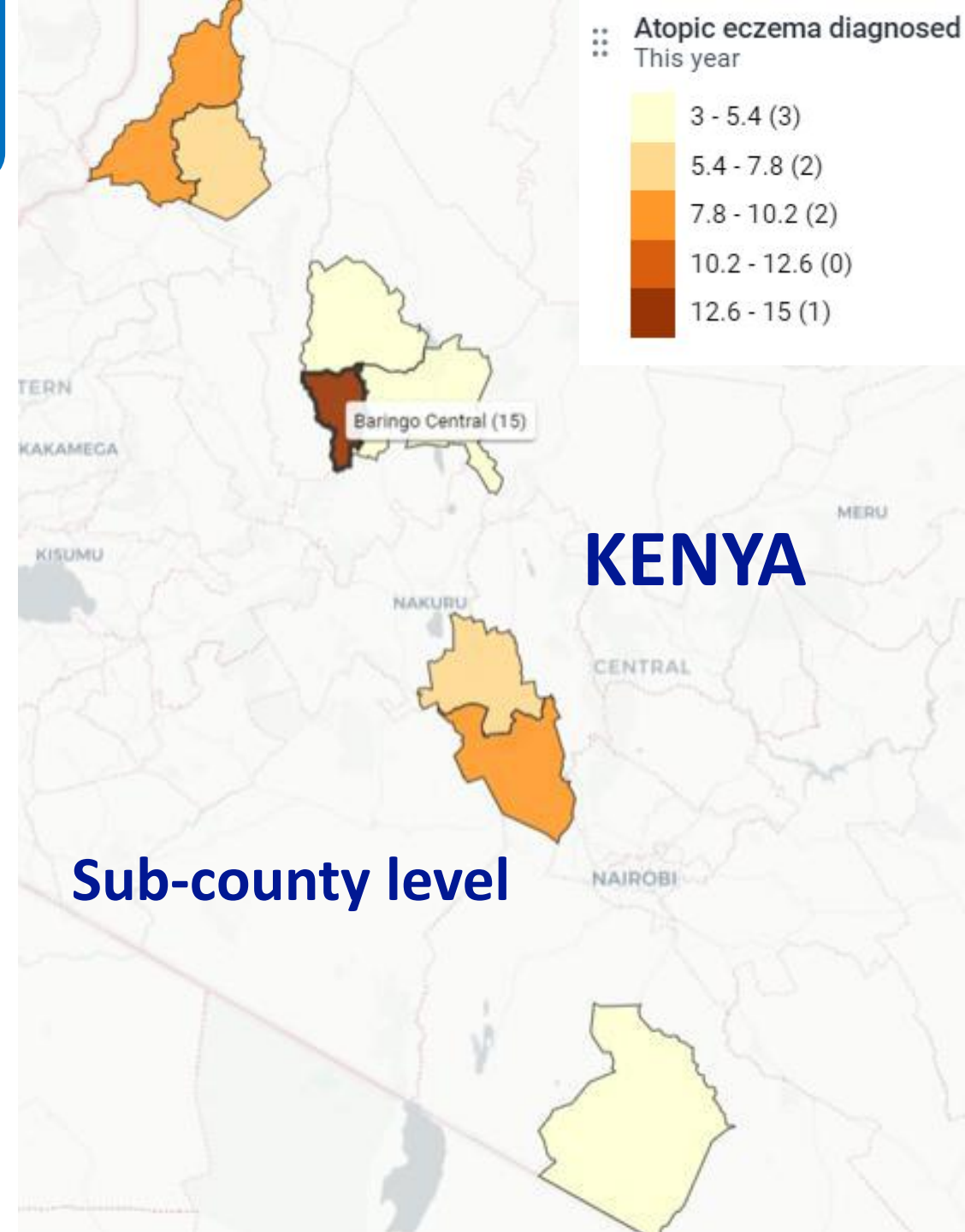
Common skin conditions are 90%
to 100% of those seen at primary
health care level

24 common skin
conditions

*Gold standard: **True Positive** if three dermatologists independently agreed on the disease*

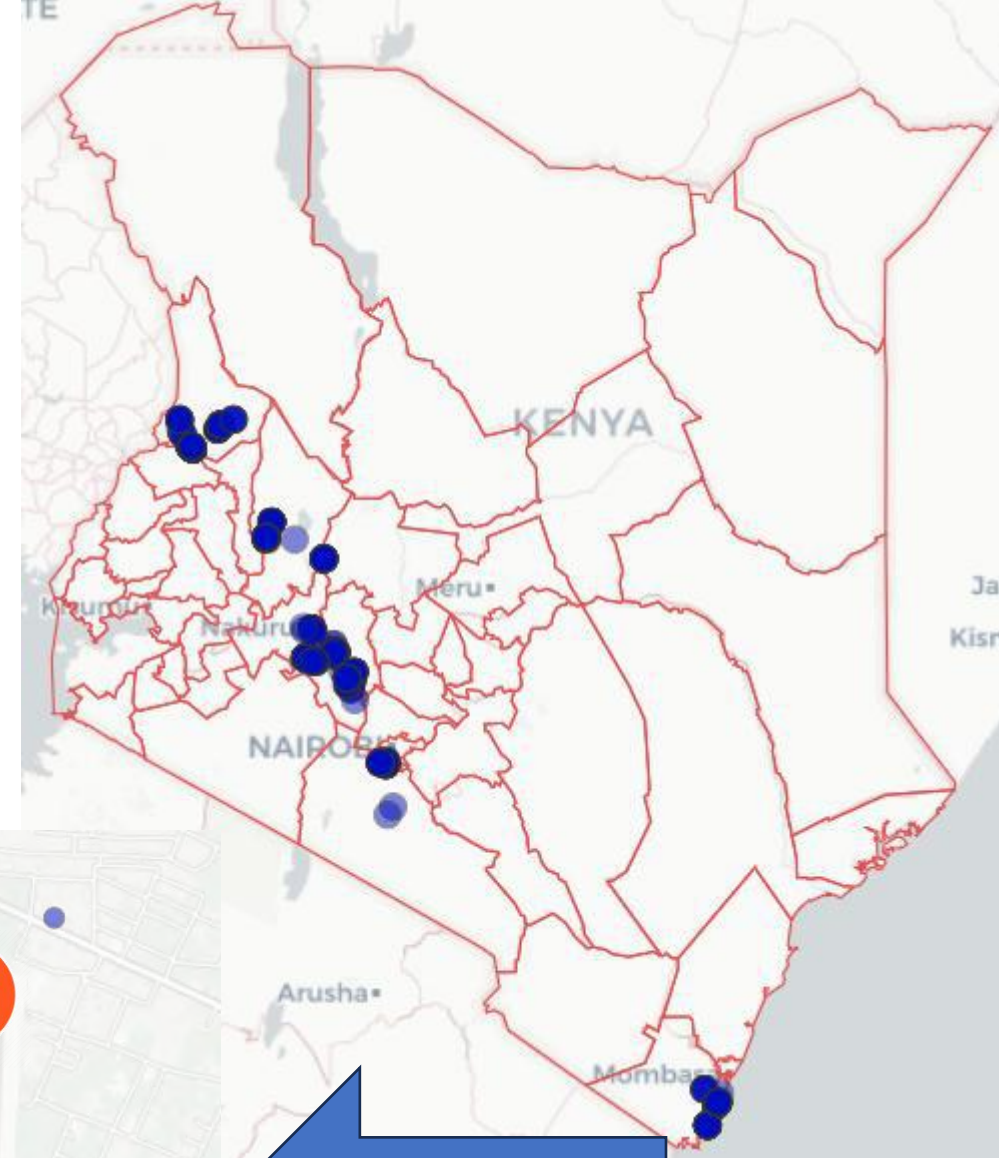
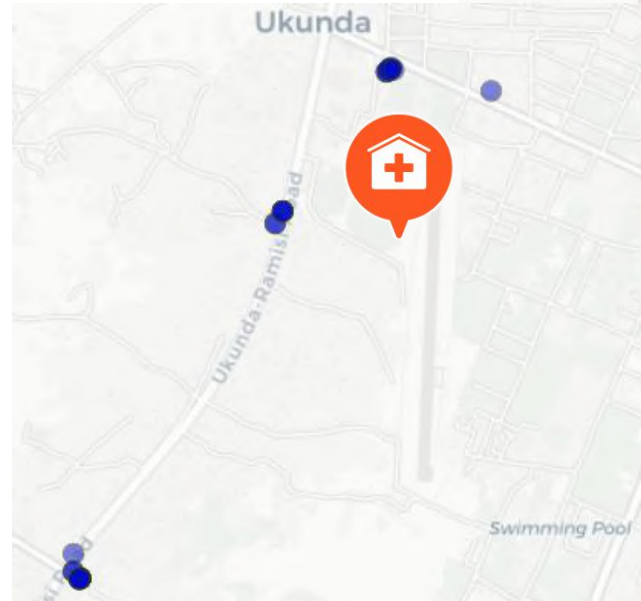
Mapping

- Specific skin diseases are and will remain **largely underreported** in the surveillance systems
- Patient-based data can be visualized as interactive **maps to identify hot spots**



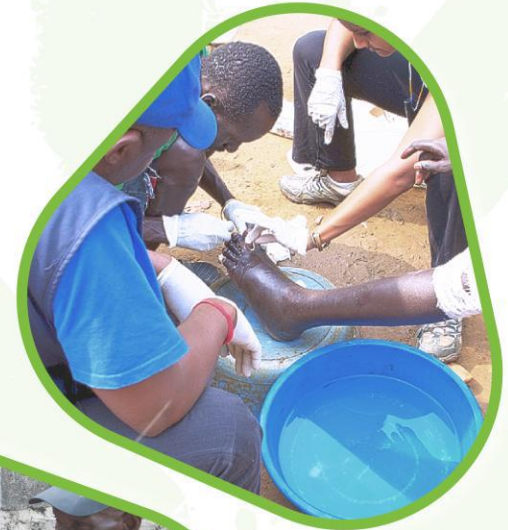
Mapping (cont)...

- Disease **data precisely geo-localized** can be crossed-checked with distance to health facilities, availability of health products, type of health worker, etc.





THANK YOU





Leveraging Chatgpt To Improve MDA Performance.

MoH-GHS/NTDP

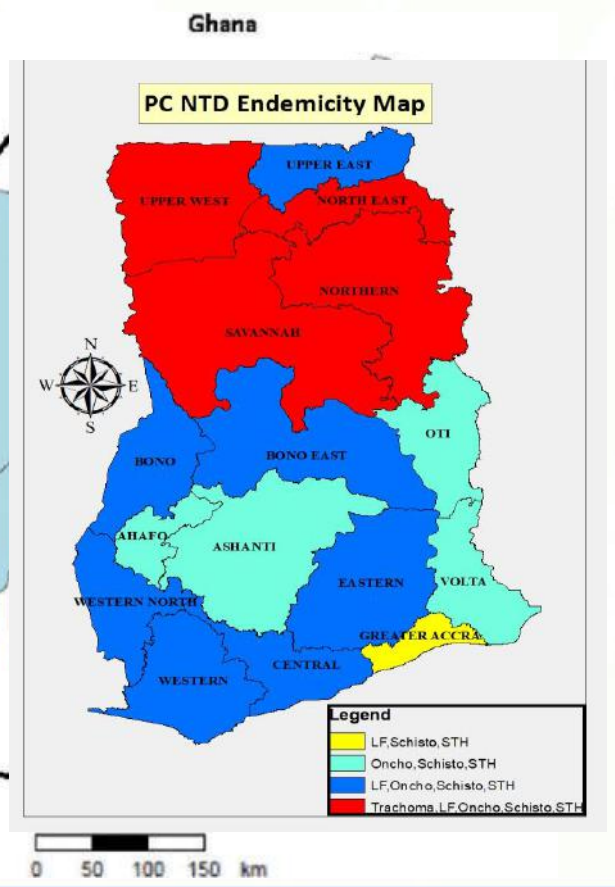
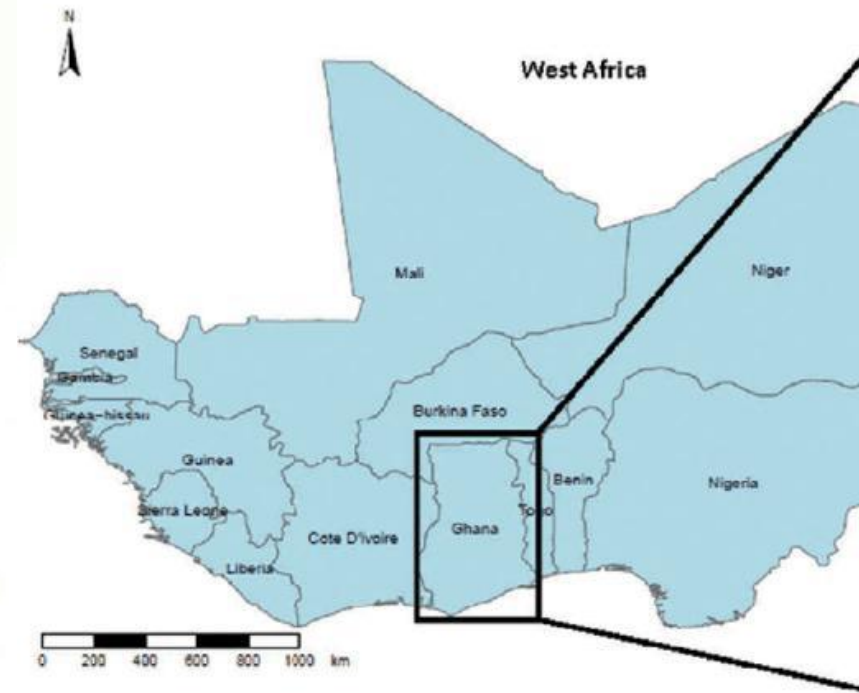
Presentation Outline

- Introduction
- Background of Electronic Data Capturing Tool(EDC)and Chatbot
- Findings
- Conclusion
- Way-forward

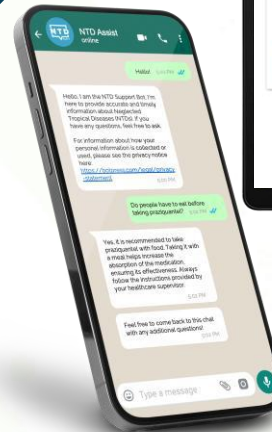
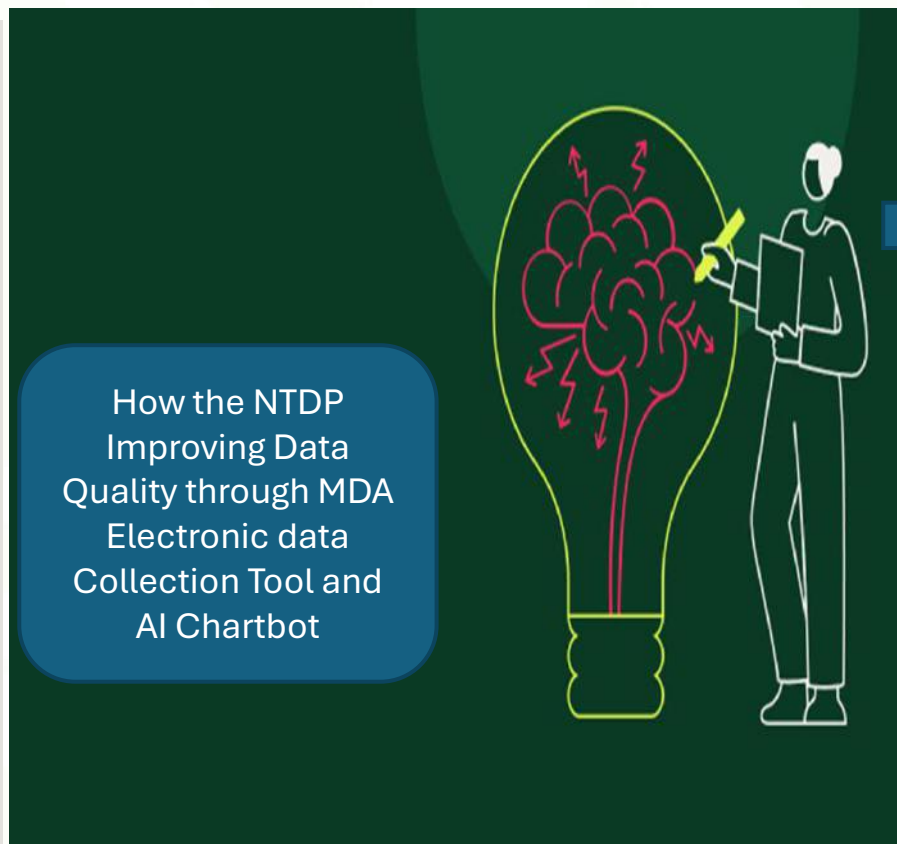
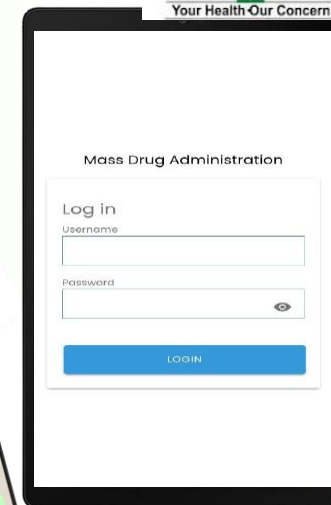
Hello!



Mr. Ernest Mensah
Monitoring and Evaluation
officer
Ghana Health Service, NTDP



Background of Chatbot and EDC

Mass Drug Administration

Log in

Username

Password

LOGIN

Background of EDC and Chatbot Con't

What is a chatbot?

- A chatbot is a software application designed to simulate human conversation and assist users by providing automated responses to their queries.
- Chatbots can operate 24/7, providing instant support and information to users at any time, enhancing service delivery and engagement.
- Chatbots can handle a large volume of queries at the same time, making them efficient for managing repetitive tasks and freeing up human resources for more complex issues.



The NTD Assist Chatbot

- **Purpose:** The NTD Assist Chatbot is designed to support community drug distributors & supervisors by providing quick and accurate information about neglected tropical diseases (NTDs) and implementing MDA.
- **Features:**
 - **Instant Answers:** Provides immediate responses to common questions about drug dosages, side effects, completing registers, and supervisor coverage tool. These are generated using vetted/approved Ghana specific databases of knowledge, WHO protocols, journals and more.
 - **Accessible Anytime:** Easily accessible via WhatsApp, making it a handy tool for distributors on the go. It can also be accessed via mobile web browser.

The Benefits

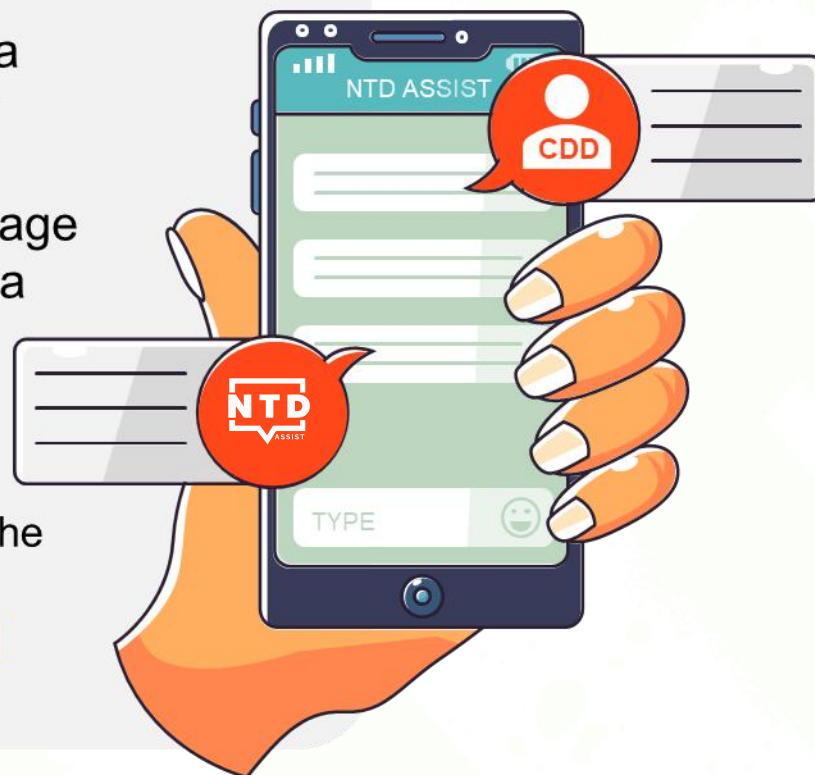
- Available 24/7 to assist with real-time queries, ensuring continuous support
- Ensures consistent and reliable information including images, minimizing the risk of human error in providing treatment information.
- Can handle numerous queries at once, making it an efficient tool for use across multiple districts.
- Gathers data on common queries to improve training materials and identify support needs.

How does NTD Assist work?

1 USER INTERACTION

The user starts a conversation **or** follow up by sending a message to the chatbot via WhatsApp.

Users must save the following number:
+233 50 826 7481



2

The chatbot recognizes the query using natural language processing (NLP) and identifies the relevant topic or question.

3

INFORMATION RETRIEVAL

The chatbot searches its database for the most accurate and relevant information related to the query.

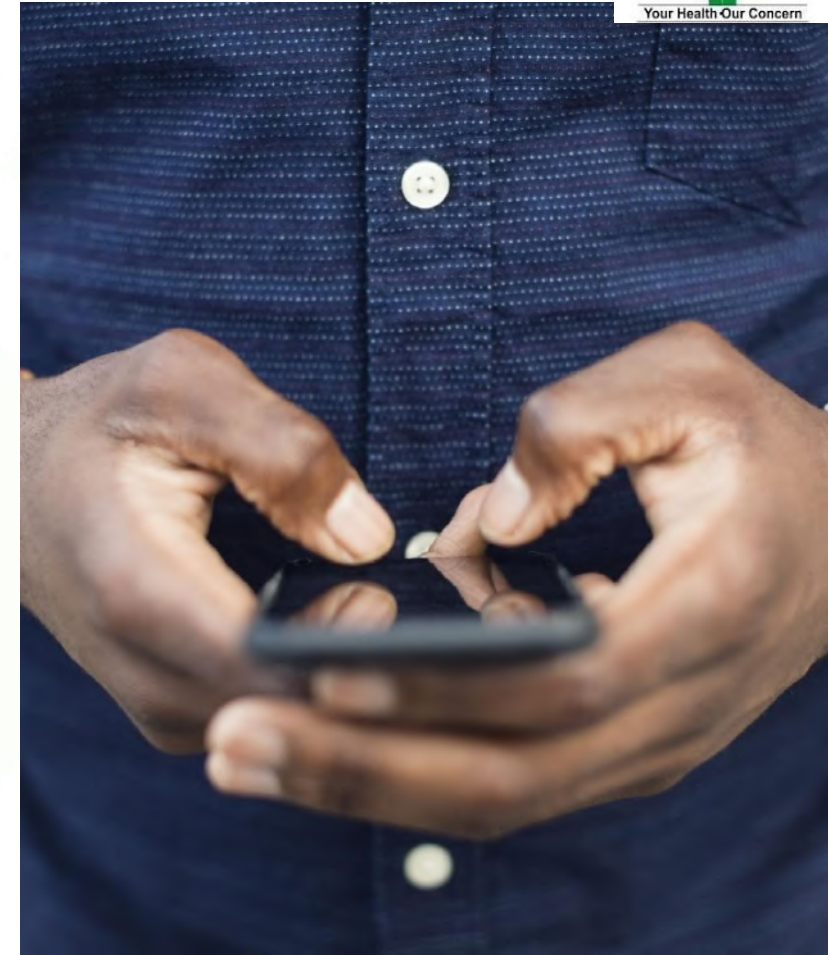
4

RESPONSE GENERATION

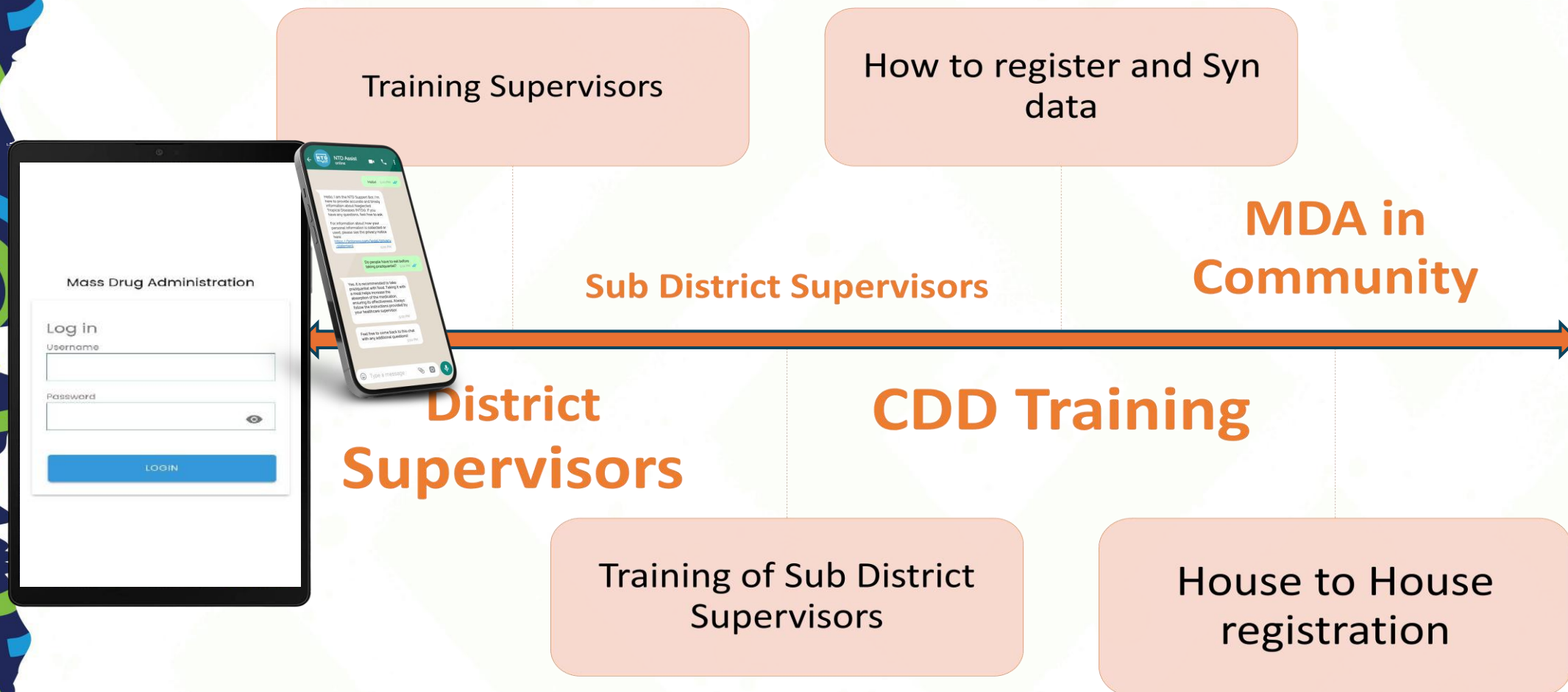
The chatbot generates a response based on the retrieved information and sends it back to the user.

The NTD Assist Chatbot

- A smartphone, tablet, or computer with an active internet connection and the latest version of the WhatsApp application installed on the device.
- The specific WhatsApp number or link provided to initiate a conversation with the NTD Assist Chatbot.
- A brief training session or user manual to understand how to use the chatbot effectively.
- Basic proficiency in English to ensure clear communication and understanding.



Training





Sample prompts: Drug Distribution and Management

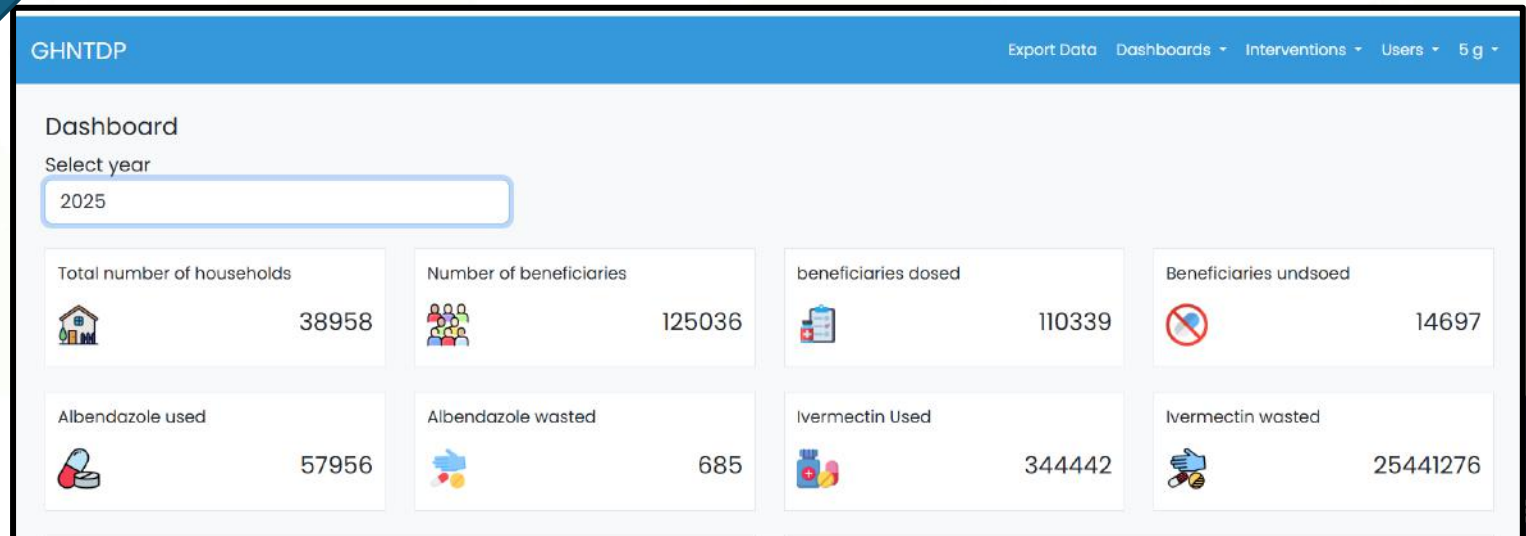
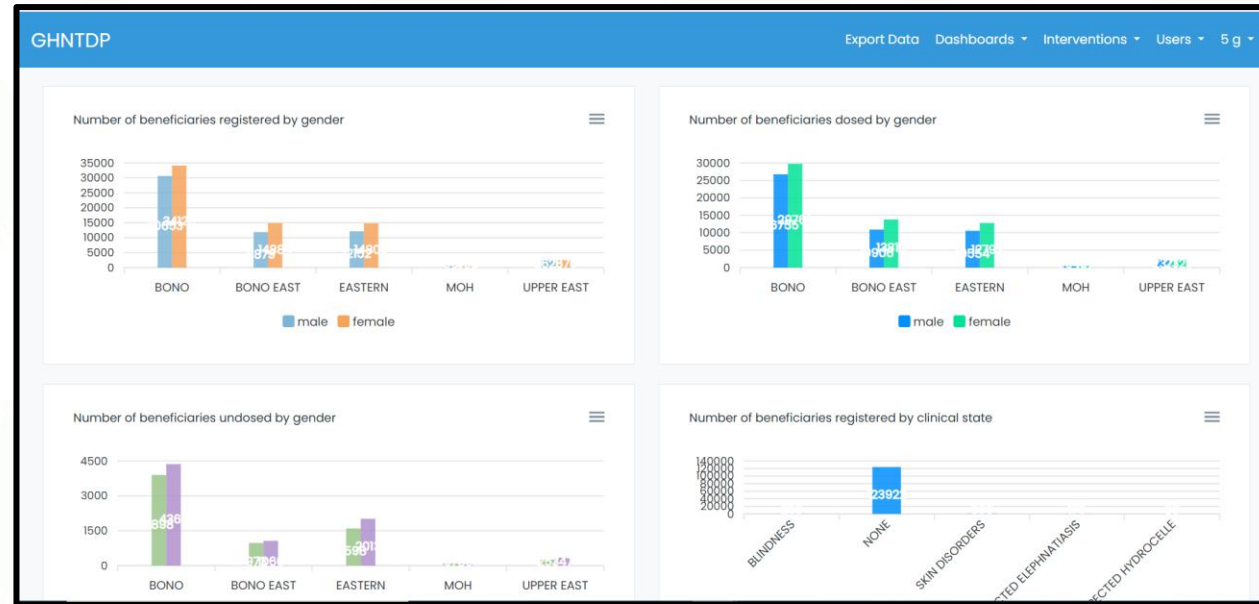
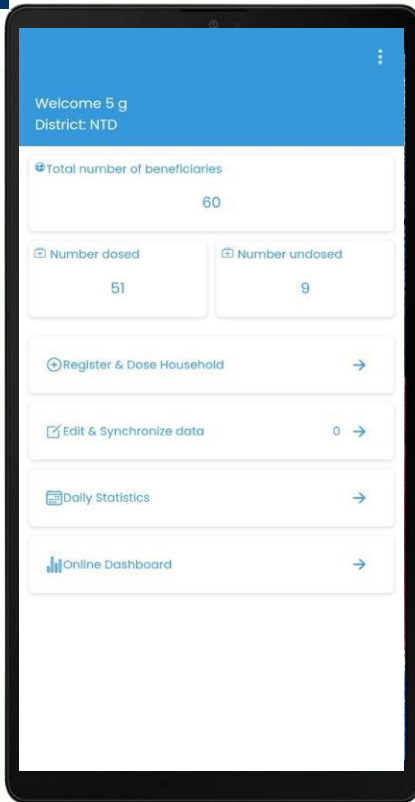
- "Can pregnant women be treated with Ivermectin?"
- "How can I measure someone who cannot stand for the dose pole?"
- "Do you have any pictures of a register?"
- "How do I remove someone who no longer lives in the household?"
- "How do I use a dose pole?"



Health Education and Community Engagement

- "How is onchocerciasis transmitted?"
- "Do you have any pictures of onchocerciasis I can share with my clients?"
- "How can I address someone's concerns about the safety of Ivermectin?"
- "What do I say to a person who is afraid to take the drugs because of rumours they've heard?"

Data Inputs and Outputs /Findings



Privacy Notice

- Ghana NTDP uses a platform called “BotPress” to develop the NTD Chatbot.
- BotPress may store cookies and IP data to enhance user experience and ensure security. Conversation logs are kept to help improve chatbot responses.
- All collected data, including cookies, IP data, and conversation logs, will be deleted once the chatbot is no longer in use.
- For privacy reasons, it is advisable to use the mobile device, tablet, or phone number assigned by the program when interacting with the chatbot.
- You will receive a privacy notice every 24 hours you interact with the Chatbot, which includes a link to BotPress’ full privacy notices.

THANK YOU





ESPEN GenAI Assistant

AI Assistant for NTD Programs

dimagi



**Annual Meeting of NTD National
Programme Managers in the WHO
African Region**

Hello!



Namrata Tomar

Research and Operations Manager

Dimagi

dimagi



**Annual Meeting of NTD National
Programme Managers in the WHO
African Region**

About Dimagi

Vision: A world where all people have access to the services they need to thrive

Mission: To build and scale sustainable, high-impact digital solutions to amplify frontline work



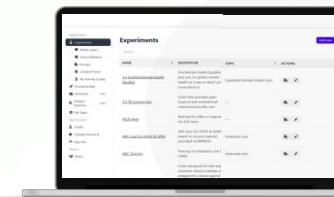
 **CommCare**
by dimagi

The customizable digital [platform](#) for frontline work everywhere



sureAdhere
by dimagi

Enabling [remote treatment support](#) through person-centered virtual care



Open Chat Studio

Advancing equity and impact with [artificial intelligence](#)

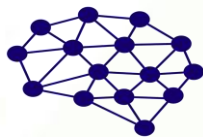
dimagi



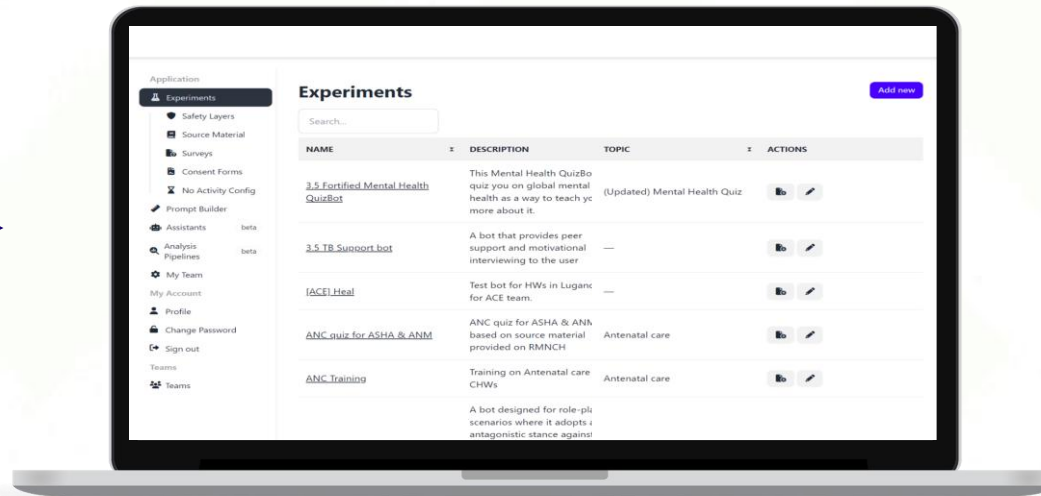
Annual Meeting of NTD National Programme Managers in the WHO African Region

Open Chat Studio

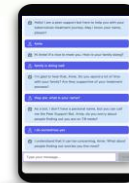
Building, Evaluating, and Deploying LLM-based chatbots



Language Model
Any LLM
with an API



Open Chat Studio*



User interface
Web, SMS, messenger
services
Social sites



**Initial development supported by BMGF FP investment on conversational agents in Senegal and Kenya*

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Annual Meeting of NTD National Programme Managers in the WHO African Region

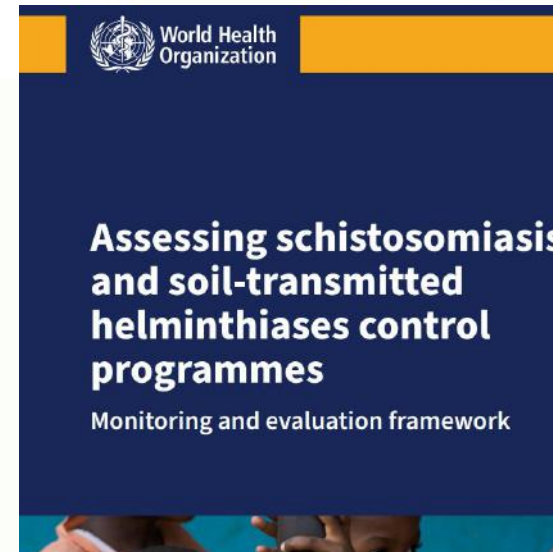
Problem Statement

ESPEN Portal: Rich repository of WHO guidelines, data, reports & maps

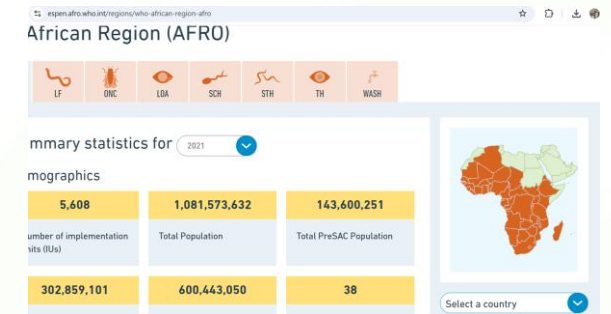
Challenge:

- Fragmented data access.
- Limited analytical capacity for decision-making.
- Time-consuming document searches.

Need: Increase engagement & usability of ESPEN data



SN	CONTINE	REGION	WHO_RE	ADMINO	ADMINO	ADMINO
1	Africa	Northern	AFRO	Algeria	1	AG
2	Africa	Northern	AFRO	Algeria	1	AG
3	Africa	Northern	AFRO	Algeria	1	AG
4	Africa	Northern	AFRO	Algeria	1	AG
5	Africa	Northern	AFRO	Algeria	1	AG
6	Africa	Northern	AFRO	Algeria	1	AG
7	Africa	Northern	AFRO	Algeria	1	AG
8	Africa	Northern	AFRO	Algeria	1	AG
9	Africa	Northern	AFRO	Algeria	1	AG
10	Africa	Northern	AFRO	Algeria	1	AG
11	Africa	Northern	AFRO	Algeria	1	AG
12	Africa	Northern	AFRO	Algeria	1	AG
13	Africa	Northern	AFRO	Algeria	1	AG
14	Africa	Northern	AFRO	Algeria	1	AG



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Problem Statement

How can AI address these issues?

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Programme Managers in the WHO
African Region**

Introducing the ESPEN GenAI Assistant!

Your AI-powered guide to NTD data, insights, and reports—faster than ever!

For NTD Program Managers & Health Experts:

- **Ask questions & get instant answers**
 - **Find reports & data with ease**
- **Navigate the ESPEN portal effortlessly**

Live Now! Try It Here →



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Programme Managers in the WHO
African Region**

What is the ESPEN GenAI Assistant?

Core functionalities:

- Data query & analysis from data tables on the ESPEN Portal
- Document summarization and key insights from ESPEN recommended documents
- Assistant for ESPEN portal navigation
- Decision support based on data analysis

Expected outcomes:

- Easier access to accurate, context-specific NTD information and insights
- Faster decision-making by reducing time spent searching for guidance
- Lower workload for ESPEN staff through automated responses to common queries



**Annual Meeting of NTD National
Programme Managers in the WHO
African Region**

What is the ESPEN GenAI Assistant?

Hi, I am ESPEN AI Assistant capable of providing accurate NTD-related insights, retrieving reports, explaining data visualizations, and conducting trend analysis based on the available data. I can answer FAQs based on the available information and offer structured results with authoritative citations. I also support multiple languages, including English, French, and Portuguese.

You can ask me questions such as:

1. What are the five key elements of Integrated Vector Management (IVM)?
2. How can I access the latest ESPEN reports on NTDs?
3. During 2022, how many Implementation Units in Burkina Faso reported to have implemented MDA for LF?

Type your message...

Send



EXPANDED SPECIAL PROJECT
FOR ELIMINATION OF
NEGLECTED TROPICAL DISEASES

[ESPEN Collect login](#) [JAP Upload Tool login](#) [Contact](#) [Feedback](#)

Select Language

Search



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[ESPEN and WHO documents](#)

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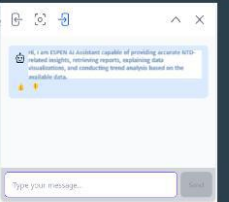
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Annual Meeting of NTD National
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African Region

Preliminary Feedback & UAT Results

What is the most recent prevalence data for schistosomiasis in Ghana?

Assumptions: Since the year wasn't specified, I used the latest available data, which is for 2022.

Table Reference: The data was fetched from the "Afro_Country_SCH_data" table using columns such as [ADMIN0, Year, No_IU, High prevalence (50% and above), Moderate prevalence (10%-49%), Low prevalence (less than 10%), PopReq, PopTreat, Coverage, etc.].

Answer:

For the year 2022, the prevalence data for schistosomiasis in Ghana is as follows:

- **Total Implementation Units (IUs):** 260
- **High prevalence (50% and above):** 61 IUs
- **Moderate prevalence (10%-49%):** 167 IUs
- **Low prevalence (less than 10%):** 32 IUs
- **Population requiring treatment:** 11,853,031
- **Population treated:** 1,431,291
- **Coverage:** 76.22%

Key Insights:

- The majority of the implementation units in Ghana fall under the moderate prevalence category.
- The treatment coverage for schistosomiasis in Ghana is relatively high at 76.22%.

Quick Data Insights Without Searching for Hours

Why it matters?

Saves time spent digging through reports, enabling faster decision-making

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Preliminary Feedback & UAT Results

Where can I find WHO's latest treatment guidelines for lymphatic filariasis?

Based on your query, I found relevant information on page 1 and 2 from the document "Lymphatic filariasis managing morbidity and preventing disability An aide-mémoire for national programmes managers_eng.pdf".

Summary:

The latest WHO treatment guidelines for lymphatic filariasis emphasize two main components:

1. **Interrupting Transmission:** This involves annual mass drug administration (MDA) of a combination of two drugs to entire at-risk populations. The drugs used are:

- Albendazole (400 mg) plus diethylcarbamazine (6 mg/kg) in areas without onchocerciasis or loiasis.
- Albendazole (400 mg) plus ivermectin (150–200 µg/kg) in areas where onchocerciasis and lymphatic filariasis are co-endemic.

1. **Managing Morbidity and Preventing Disability:** This focuses on managing lymphoedema (elephantiasis) and hydrocoele through:

2. Simple hygiene measures and basic skin care to prevent acute dermatolymphangioadenitis (ADLA) and progression of lymphoedema.
3. Surgery for hydrocoele management.

Other suggested Questions related to your query:

1. What are the specific hygiene measures recommended for managing lymphoedema in lymphatic filariasis patients?
2. How long should mass drug administration be continued to ensure the interruption of lymphatic filariasis transmission?
3. What are the benefits of managing morbidity and preventing disability in lymphatic filariasis patients?

Would you like more detailed information or any specific sections from the guidelines?

You can access the full document [here](#).

Finding the Right Guidelines & Reports Instantly

Why it matters?

Eliminates the frustration of searching through multiple documents

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Preliminary Feedback & UAT Results

👤 Where can I find the latest district-level NTD data for Tanzania on the ESPEN Portal?

🗂️ To find the latest district-level NTD data for Tanzania on the ESPEN Portal, you can follow these steps:

1. **Visit the ESPEN Portal:** Go to the ESPEN Portal website.
2. **Navigate to the Data Section:** Look for a section or tab labeled "Data" or "Country Profiles."
3. **Select Tanzania:** Use the search or filter options to select Tanzania as the country of interest.
4. **Choose District-Level Data:** Look for options to view data at the district level. This may be under sections like "Implementation Units" or "District Data."
5. **View and Download Data:** You should be able to view detailed data and download it if needed.

For your convenience, here is the direct link to the ESPEN Portal where you can start your search:

[ESPEN Portal - Tanzania](#)

Would you like more detailed instructions or assistance with a specific step?



Finding the Right Page on the ESPEN Portal Instantly

Why it matters?

- Saves time by taking users straight to the relevant page instead of searching manually.
- Helps users explore the portal more efficiently, increasing engagement.
- Reduces frustration, especially for first-time or infrequent users

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African Region**

Preliminary Feedback & UAT Results

- Across the board, using the Assistant improved the speed of task completion, including for users with advanced knowledge of the ESPEN portal
- The maximum improvement in efficiency was for the knowledge-related question **(17x)**, followed by the team **(4x)** and data-related questions **(2x)**

Next Steps

Refining & Expanding

- Optimizing AI performance by improving response speed and accuracy.
- Exploring synergy with other NTD and NTD-AI tools.

Get Involved

- Provide us feedback by scanning the QR code on the right
 - *Special rewards for the first ones to sign up and test!*
- Share ideas on what features or improvements would make this more valuable.



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THANK YOU



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Welcome to session 7

Implementing Digital Payments to Health Workers involved in NTD campaigns

Abena Oppon-Kusi



With challenges and opportunities identified, WHO AFRO transitioned to digital payments starting with the polio eradication program

The challenges with payment in polio campaigns posed a threat to the overall Polio eradication effort and thus necessitated implementation of targeted solutions to address identified gaps

WHO AFRO identified specific issues with the payment of campaign workers...

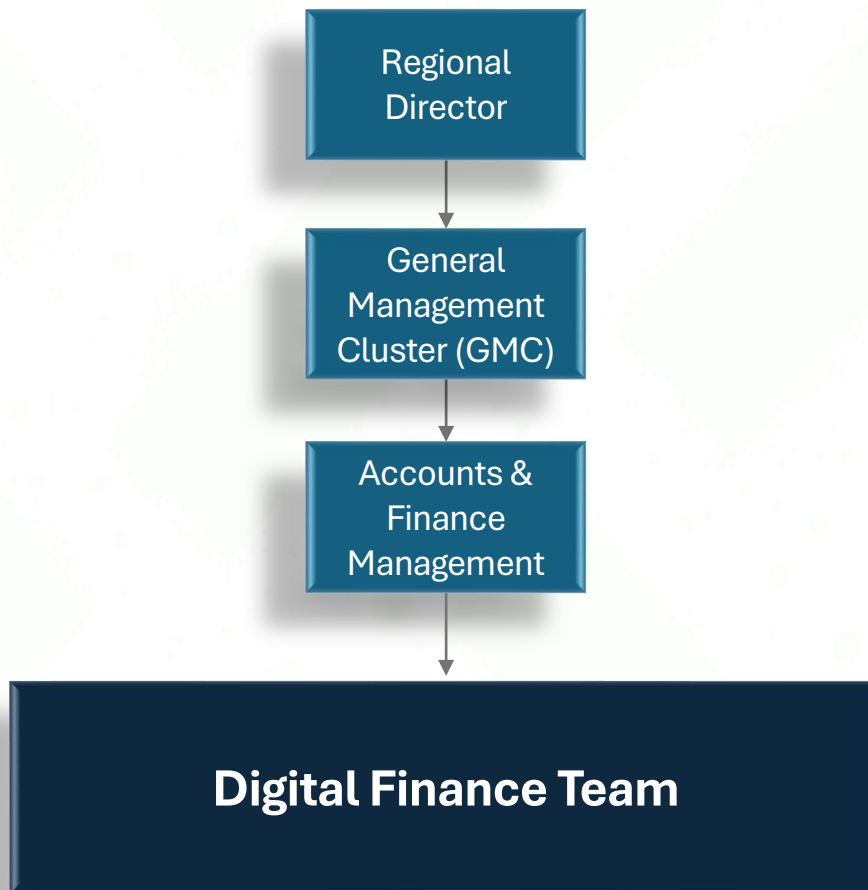
- **Delayed disbursement of funds** to operational levels, resulting from challenges with bank transfer or cash out at local banks
- **Lack of transparency** resulting in leakages and inefficiencies
- **Numerous layers of funds transfer** resulting in bureaucracy and duplicate processes
- These issues led to **demotivated campaign workers and difficulty in hiring and retaining** good campaign workers



... and used these issues to guide the development of a solution with clear objectives

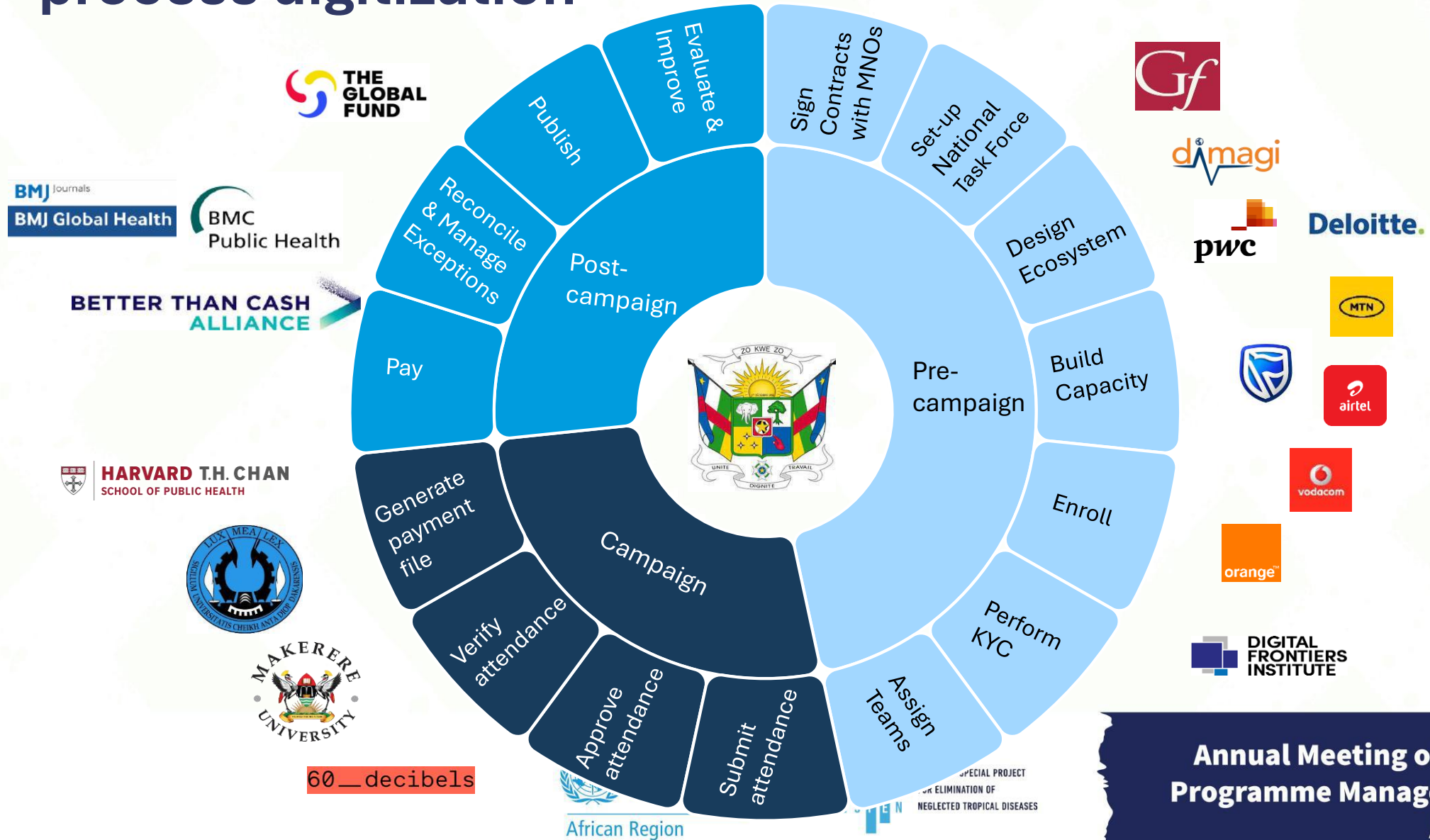
Design and implement a digital payment system to reduce lag time and ensure timely payment of funds to polio campaign frontline workers
Ensure **direct payment of campaign workers** with little to no leakage of funds
Build **evidence through research and document processes** to be scaled up to other countries, and other public health interventions

AFRO set up a Digital Finance Team (DFT) to design an implementation approach for digital payments



- Created by the Regional Director in 2020 with funding from The Gates Foundation
- The team is made up of 10 digital finance professionals and 2 data analysts
- Team members are responsible for the end-to-end implementation of mobile money payments in countries in the African region.
- The team works closely with the Polio team and country offices to provide digital payment solutions to countries.
- The team also works with a wide range of external partners design and implement payment ecosystems.

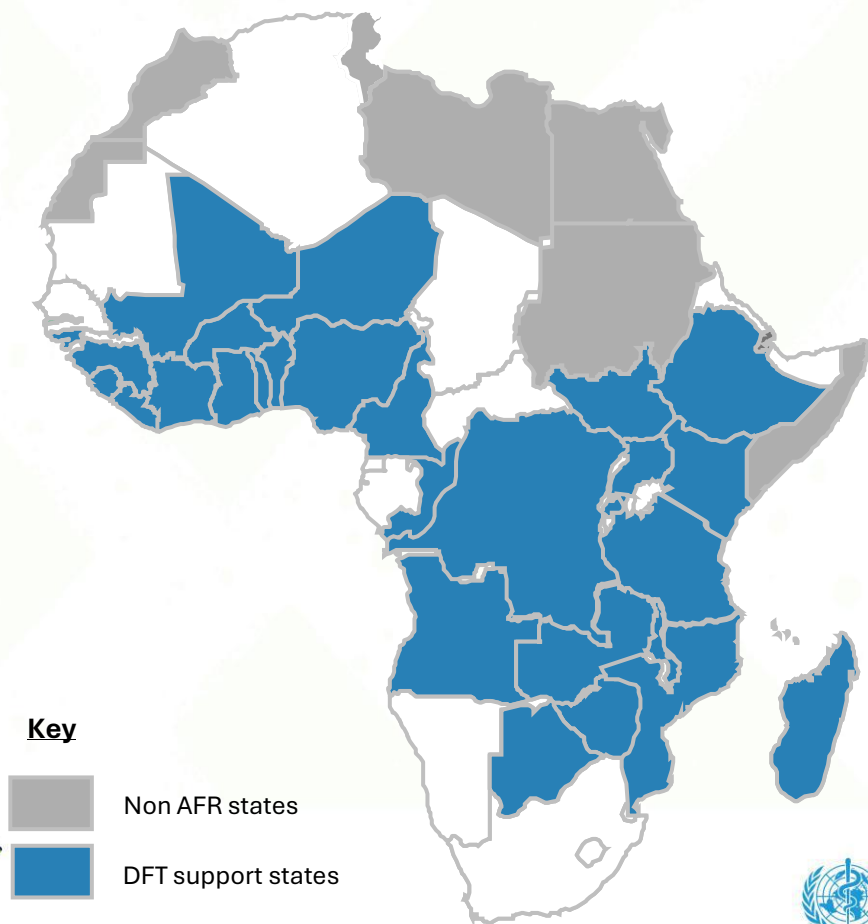
DFT developed a unique approach to end-to-end payment process digitization



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DFT Footprint and successes

WHO AFR States with DFT Footprint



- **Built capacity of tens of thousands of Ministry of Health Personnel at all levels of the health pyramid on digital payments**
- **Enrolled ~2.5 million Health Workers in 31 countries in a complete and verified database with over 2 million workers paid digitally**
- **Significantly reduced payment lags – Workers paid as early as 2 hours post-campaign**
- **Increased transparency and accountability with a full audit trail of payments** compared to cash transactions.
- **Increased satisfaction** of health workers resulting in **better campaign coverage** over time.
- **Significantly increased the coverage** of polio vaccination campaigns

Scaling the Use of Digital Payments by National NTD Programs

Background: The NTD program face similar digitization challenges that have been addressed by the AFRO DFT for the Polio program and are seeking to decrease the use of cash and increase transparency to improve community drug distributor (CDD) payment experience and campaign quality.

Objective: To leverage the existing digital payment processes, technologies and knowledge put in place by AFRO's Digital Finance Team to help MDA payments transition from cash to digital in as many of the 39 Reaching the Last Mile Fund (RLMF) countries as possible, implementing solutions in 12 countries within 4 years.

Strategy: To support and empower the ministry of health workers to design, implement and fully own the payment ecosystem by building capacity of their workers and working with them to design their payment structures and processes that suits them.

What will success look like?

PRIMARY OUTCOMES

PO1: Systemic adoption of gender-intentional, transparent, and fast G2P digital health payments.

PO2: Improved MDA worker (CDD) satisfaction, motivation, and performance.

PO3: Increased efficiency of NTD campaigns.

PO4: Reduced costs associated with handling, transporting, and securing cash

IMPACT

Improved coverage of NTD campaigns.**

- ☐ What impact does the adoption of digital payments have on MDA worker satisfaction, motivation, and campaign performance?
- ☐ How effective is the transition to digital payments in improving the timeliness, transparency, and efficiency of MDA worker payments
- ☐ How well are governments and stakeholders integrating digital payment systems into their existing NTD program operations and decision-making?

Key Deliverables

Deliverable	Details
A gender disaggregated database of all MDA workers	<ul style="list-style-type: none"> Names, Worker Categories, Location, ID, Payment information, photos Verification of database against trusted MNO database
A campaign payment management tool complete with all the campaign management functions	<ul style="list-style-type: none"> enrolment worker, modify details, delete Assign worker to a campaign Mark attendance of workers Approve selected workers for campaign and approve attendance Download worker data
A bulk payment platform that can issue payment to all workers irrespective of their network	<ul style="list-style-type: none"> Issue real time bulk payment to workers Accommodate the payment amounts of MDA workers Provide real time payment reports Resolve failed payment issues
Capacity building and sustainability measures in all implementation countries	<ul style="list-style-type: none"> Involve the MoH and partners in the design of the payment ecosystem. Set up a national taskforce who will be responsible for the project at the National level. Trained MoH officers at all levels of the health pyramid navigating the payment ecosystem. Develop standard guidelines, documentation and tools to guide the use of the payment ecosystem in all countries.
Live dashboards and reports to track payment KPIs	<ul style="list-style-type: none"> Reports on enrolment by different categories, location, worker type, campaign type, etc. Payment dashboard to track payment timelines and amounts. Customized reports and dashboards for key stakeholders.
Independent surveys to assess worker satisfaction	<ul style="list-style-type: none"> How satisfied are workers with digital enrolment and payment. How difficult is it to withdraw funds paid to them digitally. How would they recommend the campaign work to others.

Timeline

Year 1

Initial Planning, M&E plan, Country Assessments
Implement in 3 countries

Develop workplans
Enroll workers
Pay workers
Develop payment dashboards
Establish a Community of Practice

01

Year 2

Assess project approach
Develop technical documentation and guidelines
Implement in 3 countries

Develop workplans
Enroll workers & pay workers
Worker satisfaction survey in 1 country
Develop sustainability plan
Share learnings and best practices
Develop SMART guidelines for payment digitization

02

Year 3

Assess project approach
Assess sustainability plans
Implement in 3 countries

Develop workplans
Enroll workers
Pay workers
Worker satisfaction survey in 2 countries
Share learnings and best practices

03

Year 4

Assess sustainability plans
Evaluate country implementation
Implement in 3 countries

Develop workplans
Enroll workers
Pay workers
Worker satisfaction survey in 2 countries
Document and share learnings
Review evaluation plan

05

Nov 24 – Oct 28

Advocacy and Buy-in

- **NTD Implementing Partners**

All key NTD implementing partners have been introduced to the concept of digital payments, including Sightsavers, The Carter Center (TCC), END Fund, Unlimit Health, and the Helen Keller Institute (HKI).

These organizations have expressed their support and interest in transitioning to digital payment systems. Moving forward, the DFT will continue engaging with other NTD partners to ensure a broad and inclusive adoption of digital payments across all implementation efforts.

- **NTD program Managers**

NTD Program Managers play a critical role in the success of this initiative. As intermediaries between the WHO and the Ministry of Health, their endorsement and collaboration are essential for a smooth transition from cash-based to digital payments. Their leadership will help manage the change process within MoH systems, ensuring efficiency and sustainability in digital payments to MDA workers.

- **Ministry of Health**

While the Digital Finance Team has successfully secured buy-in for digital payments in polio programs in several countries, this support does not automatically extend to other health initiatives. Implementing digital payments for NTD programs will require dedicated efforts to build trust, demonstrate value, and gain the Ministry of Health's commitment. Strategic engagement, clear communication, and collaboration with key stakeholders will be essential to achieving this goal.

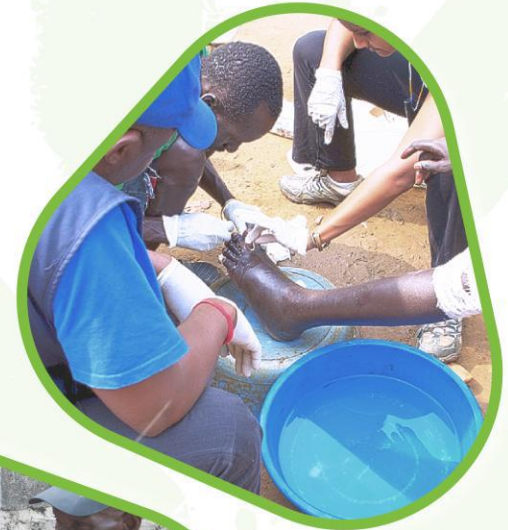
Next Steps- Country Assessment and Selection

If there's opportunity to digitize payments for NTD campaigns in your country for, email or send us a message on teams on:

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Abena OPPON-KUSI - oppona@who.int

THANK YOU



LUNCH BREAK

