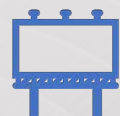# GOVERNMENT OF SIERRA LEONE

Ministry of Health

National Malaria Control Program

OUTCOMES AND EVIDENCE OF DIGITIZATION FROM SIERRA LEONE'S 2023/24 ITN DIGITALIZATION MASS CAMPAIGN

A DATA-DRIVEN APPROACH TO MALARIA PREVENTION

Introduction

Malaria is endemic in Sierra Leone, with stable and perennial transmission in every part of the country.

In 2022, 3,151 people were reported to have died of malaria in Sierra Leone.

The NMCP saw the need to be more innovative and efficient in the delivery of its core malarial prevention intervention and began planning for its first ITN digitalization mass campaign.

ITNs represent one of the most effective malaria prevention tools due to it's demonstrated effect on malaria vector.
Between 2006 t0 2024, 21,128,790 ITNs has so far been distributed.

Mass campaigns remain the best method for rapid scale-up of ITN coverage and it is implemented every 3 years.

In 2023, the Global Fund (GF) and USAID/PMI funded the distribution of 5,345,236 ITNs (PBO & Dual A.I.) nationwide.

The campaign was in two-phases: Door-to-door household registration followed by fixed/outreach/mobile-point distribution, to deliver 1 net to every 2 persons using digital technology.

The ITN digitalization mass campaign was implemented by the National Malaria Control Program (NMCP) in collaboration with CRS, UNICEF, WHO, HEP and support from AMP, RBM/CRSPC, Breakthrough Action and other partners.

CHALLENGES OF PAPER-BASED APPROACH

✅ Fraudulent mobilization and distribution by some of the campaign personnel

✅ Errors in data collection

✅ Delays in data reporting and analysis

✅ Transparency and accountability issues

✅ Lack of clarity and misunderstanding of the campaign process by campaign personnel and stakeholders

✅ Untidy ITN logistics process

WHY DIGITALIZATION?

To enhance innovation and efficiency in delivering its core malaria prevention intervention, the NMCP implemented its first digitalized ITN mass campaign.

✅ To improve efficiency, accuracy, and accountability in ITN distribution

✅ To allocate and manage campaign personnel and resources better

✅ For effective and real-time communication and access to campaign personnel and swift data access for analysis.

By the end of February 2024, over 4.8 million ITNs were distributed across the country tracked digitally.
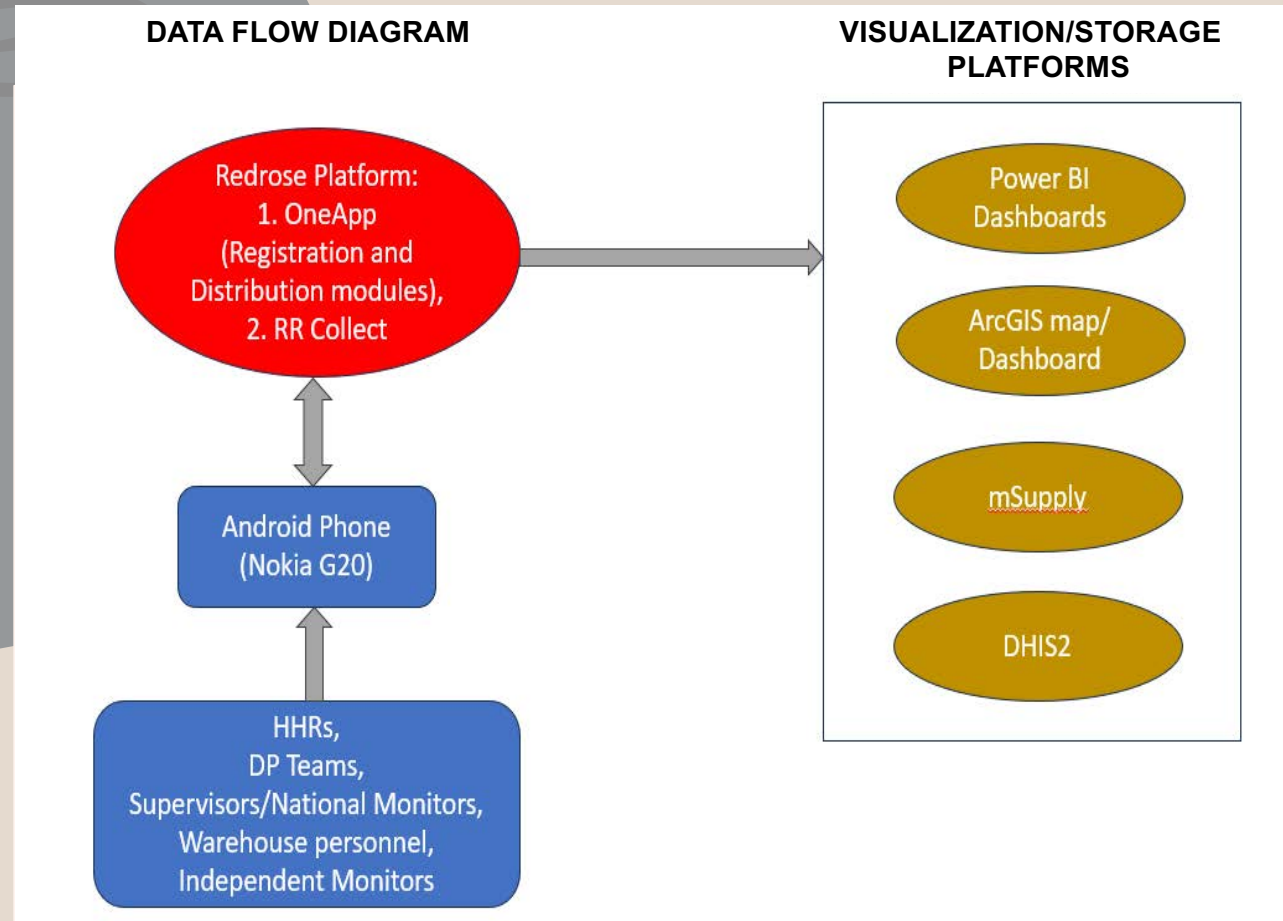
DIGITALIZATION PROCESS FLOW

The NMCP in collaboration with CRS its co-PR, partnered with Redrose to provide the digitalization solution for the ITN campaign.

A digitalization solution platform was developed and customized for SL ITN mass campaign.

The platform hosted the One App, and the RR collect digital forms which were installed in an android device procured for the campaign implementation process.

The platform was also link to some visualization and country managed storage platforms.

DATA FLOW DIAGRAM

VISUALIZATION/STORAGE PLATFORMS

Redrose Platform:
1. OneApp
(Registration and Distribution modules),
2. RR Collect

Android Phone
(Nokia G20)

HHRs,
DP Teams,
Supervisors/National Monitors,
Warehouse personnel,
Independent Monitors

Power BI Dashboards

ArcGIS map/ Dashboard

mSupply

DHIS2

UNBOXING OF DIGITALIZATION TOOLS & DEVICES

Unboxing & configuration of the campaign devices

Capacity building for ICT4D consultants to support the digitization of the ITN campaign

WHAT WAS DIGITALIZED?

The campaign activities that were digitalized includes:

✅ Some components of the microplanning **– training venue and warehouse assessment.**

✅ **Training attendance tracking –** Ensured accountability and verification of personnel including GPS locator tracking of training venue

✅ **Household registration –** Ensured household registration process was strictly followed owing to the device prompt's commands and a time delay for SBC messaging to be delivered.

✅ **ITN distribution –** Ensured accountability in the issuance to ITNs to household's recipients owing to the device prompt's command.

✅ **ITN movement –** Ensured ITN accountability and tracking across all storage location down to the last mile.

✅ **Monitoring and supervision –** Ensured real-time data output for monitoring and supervision leading to spot-on troubleshooting during in-process monitoring.

KEY OUTCOME & BENEFITS

✅ **Digitalization enabled real-time monitoring of the entire campaign process from anywhere in the world through the various digital visualization dashboards.**

✅ **It eliminated fraudulent mobilization and distribution, a common challenge with the paper-based system.**

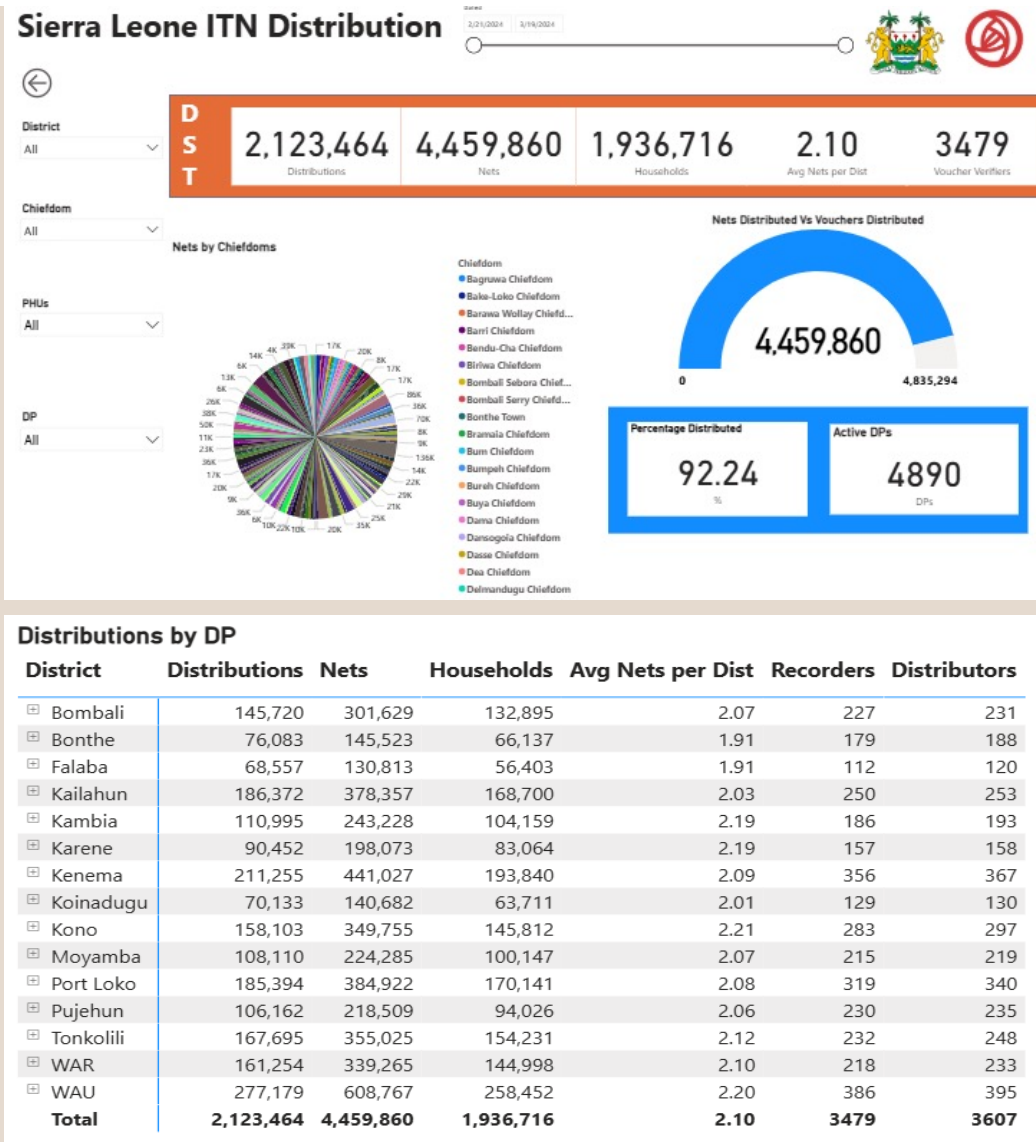✅ **Resources optimization backed by data informed ITN pre-positioning of ITN at distribution points.**

✅ **Coverage visibility was significantly enhanced, with real-time data and dashboards enabling efficient tracking and verification of areas yet to be reached or covered.**

✅ **Monitoring and supervision were data-driven, allowing for the identification of underperforming or inactive campaign personnel, who were easily tracked and provided with additional support (e.g. 6329 HH registrars trained and deployed but 6299 were active as seen on the dashboard) this couldn't have been detected by paper-based approach.**

Sierra Leone Registration Dashboard

R E G	2057557	4835244	9624055	4.68	2.35	6299
	Registrations	Vouchers	FamilyMembers	Avg HH Size	Avg Nets cards ...	HH Registrars

Vouchers by Districts

Active PHUs
1282 PHUs

102.88%
%Vouchers distributed in SL

135,222
Diff btw voucher distributed & micro plan ITN needs

Distributed vs Alocated Vouchers
4835244

Chiefdoms
- Bombali
- Bonthe
- Falaba
- Kailahun
- Kambia
- Karene
- Kenema
- Koinadugu
- Kono
- Moyamba
- Port Loko
- Pujehun

Sierra Leone LLIN Dashboard — DISTRICT: Kenema — CHIEFDOM: Small Bo

KEY OUTCOME & BENEFITS

✅ **The need for mop up day(s) was targeted and data driven against the blanket mop-up practice of the paper-based approach.**

✅ **Errors of inconsistencies were minimized with digitalization, while data storage and call-up for future planning is made easier.**

✅ **Enabling faster decision-making and quick issue resolution due to real-time data collection and analysis.**

✅ **17,400 local capacity built on campaign digitalization and health system optimization.**

Sierra Leone ITN Distribution

DST	Distributions	Nets	Households	Avg Nets per Dist	Voucher Verifiers
	2,123,464	4,459,860	1,936,716	2.10	3479

Nets Distributed Vs Vouchers Distributed: 4,459,860 (0 – 4,835,294)

Percentage Distributed: 92.24 %

Active DPs: 4890 DPs

Distributions by DP

District	Distributions	Nets	Households	Avg Nets per Dist	Recorders	Distributors
Bombali	145,720	301,629	132,895	2.07	227	231
Bonthe	76,083	145,523	66,137	1.91	179	188
Falaba	68,557	130,813	56,403	1.91	112	120
Kailahun	186,372	378,357	168,700	2.03	250	253
Kambia	110,995	243,228	104,159	2.19	186	193
Karene	90,452	198,073	83,064	2.19	157	158
Kenema	211,255	441,027	193,840	2.09	356	367
Koinadugu	70,133	140,682	63,711	2.01	129	130
Kono	158,103	349,755	145,812	2.21	283	297
Moyamba	108,110	224,285	100,147	2.07	215	219
Port Loko	185,394	384,922	170,141	2.08	319	340
Pujehun	106,162	218,509	94,026	2.06	230	235
Tonkolili	167,695	355,025	154,231	2.12	232	248
WAR	161,254	339,265	144,998	2.10	218	233
WAU	277,179	608,767	258,452	2.20	386	395
Total	**2,123,464**	**4,459,860**	**1,936,716**	**2.10**	**3479**	**3607**

EVIDENCE OF IMPACT

📷 **Campaign visibility** enabled by the digital dashboards and coverage maps

📈 **Increased Coverage & Efficiency** leading to an optimized household registration and ITN distribution processes as is evidently seen from the visual coverage maps and distribution dashboard.

🎯 **Data-Driven Decision-Making** informed by real-time insights and data collection

💰 **Long term cost efficiency** by the reduction of operational expenses from paper, printing, logistics)

🔄 **Sustainability** for future ITN campaigns through the digitalization solutions and the ease of data access

📊**Digitalization Perception Survey** back by an end-process survey revealed that 93% of all respondents agreed that digitalization is the way forward for health interventions.
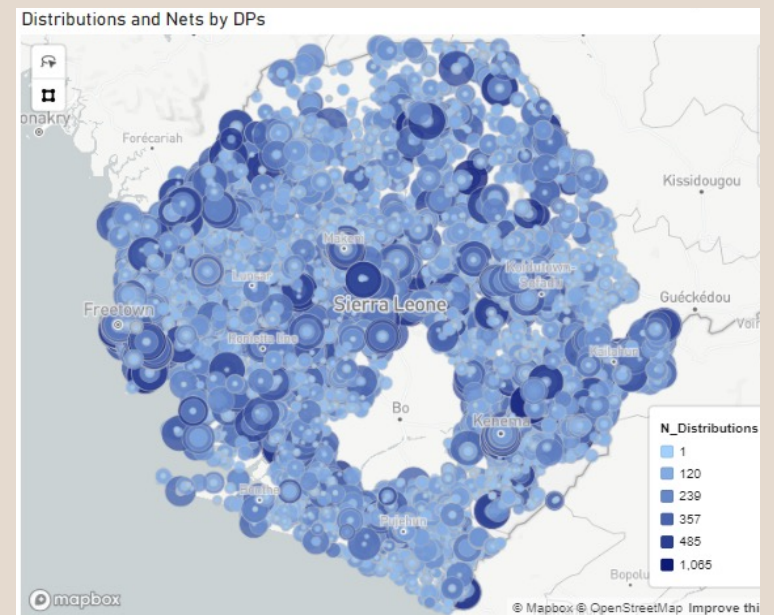
LESSONS LEARNED & FUTURE RECOMMENDATIONS

✅ **Strengthened and innovative training and capacity-building efforts with the use of digital job aid and tutorial videos.**

✅ **Data transmission via device synchronization in limited network coverage areas was challenging as such data synch spots were identified in some chiefdoms, while buffer devices were required for device swap to be carried out in some other chiefdoms with no network coverage for data synchronization to be done to enable data-driven decision making and supervision.**

✅ **Mobile network providers had a challenge subscribing data into procured SIM cards as such campaign personnel had to use their personal devices to hotspot the campaign devices to facilitate the device synchronization for real-time data upload. Involving entities such as mobile network providers in the National Task Force would enable them understand the nature and gravity of their services as stakeholders in the campaign process.**

✅ **Tracking and reconciliation of waybills used for prepositioning of ITNs are cumbersome and sometimes incomplete, hence a need to digitize waybills since the ITN movement process is digitally tracked.**

✅ **Complete integration of the digital solution with the in country digital health system (DHIS and m-supply) is important for a sustainable and strengthened health system delivery.**
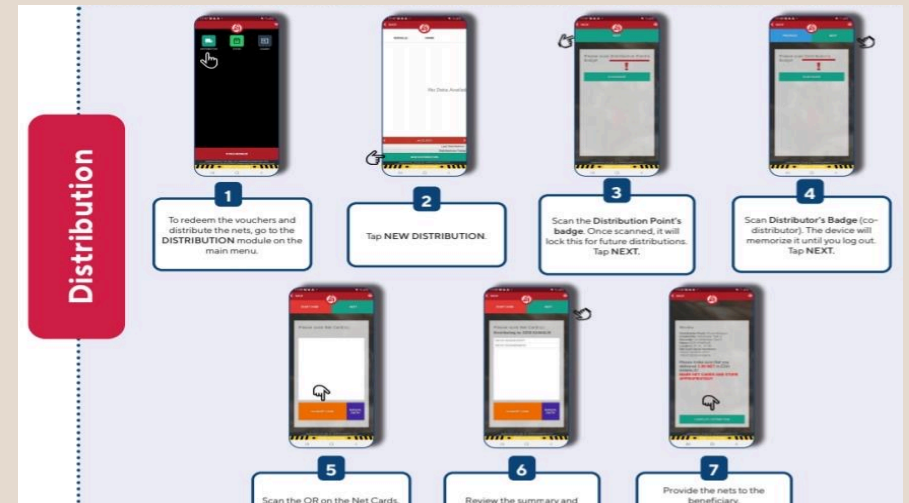
Digitization transformed ITN distribution in Sierra Leone

It enable visualization of the campaign process and a profound sense of appreciation of the intervention by all stakeholders especially the MoH.

Evidence shows higher efficiency, better accountability, and improved coverage

Continued investment in digital solutions will enhance malaria prevention efforts

THANK YOU!
TENKI!

COMMENTS, CONTRIBUTIONS & QUESTIONS