Sub-Regional National Malaria Programs and Partners Annual Meeting

October 2023-Kampala, Uganda

Organized by: RBM/CRSPC

Updates: Sudan

NSP 2021-2026 updated 2023

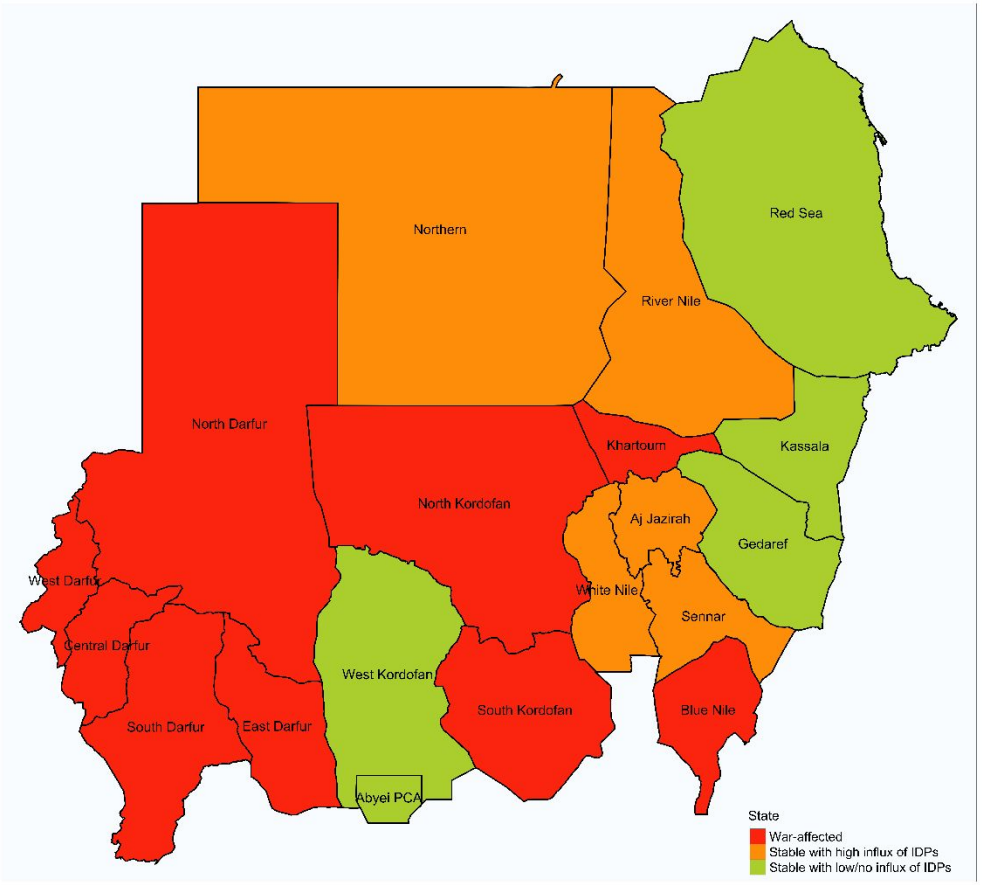
Goal

To reduce malaria morbidity and mortality by 25% by 2026 (taking 2021 as a baseline) and accelerate efforts towards malaria elimination where feasible (in the northernmost states).

Objectives

Ensure	Ensure universal coverage of at-risk population with integrated vector management as per operational stratification (with ITNs, IRS or LSM) and to increase the ITNs utilization rate by 20% (from less than 53% to 73%)
Ensure	Ensure universal access of malaria patients to quality-assured malaria case management (testing, treatment) and to encourage seeking treatment within 24 hours of fever initiation.
Control	Control malaria in pregnancy including its effects on low birth weight through case management and distribution of ITNs and intermittent preventive treatment in targeted areas.
Provide	Provide timely and reliable information to monitor the progress, trend in malaria cases and deaths and to early detect and contain epidemics
Coordinate and sustain	Coordinate and sustain evidence-based and cost-effective malaria control activities at national, state and locality level

War status in Sudan 2023



Implementation Status: Is the country on track with addressing the MSP targets :

Indicator	Base line	2022 target	Achievement	Status
Inpatient malaria deaths/ 100,000 population)	4.27 (2021)	4.06	3.63	On track
Inpatient malaria deaths/ total inpatient deaths	8.40 (2021)	7.98	10	Off track
Reported malaria cases (presumed and confirmed)	3,815,616 (2021)	3,624,835	3,768,163	Of track
Confirmed malaria cases (microscopy or RDT) / 1000 persons	36.07 (2021)	34.27	27.95	On track
Test (slide + microscopy) positivity rate	28.42% (2021)	26.99%	24.7%	On track
Proportion of confirmed malaria cases that received first-line antimalarial treatment at public sector health facilities	81.6% (2019)	54.6%	63.46% (change the data source)	On track
Proportion of confirmed malaria cases received first-line ACT in the targeted communities	100% (2019)	100%	58.92%	Off track

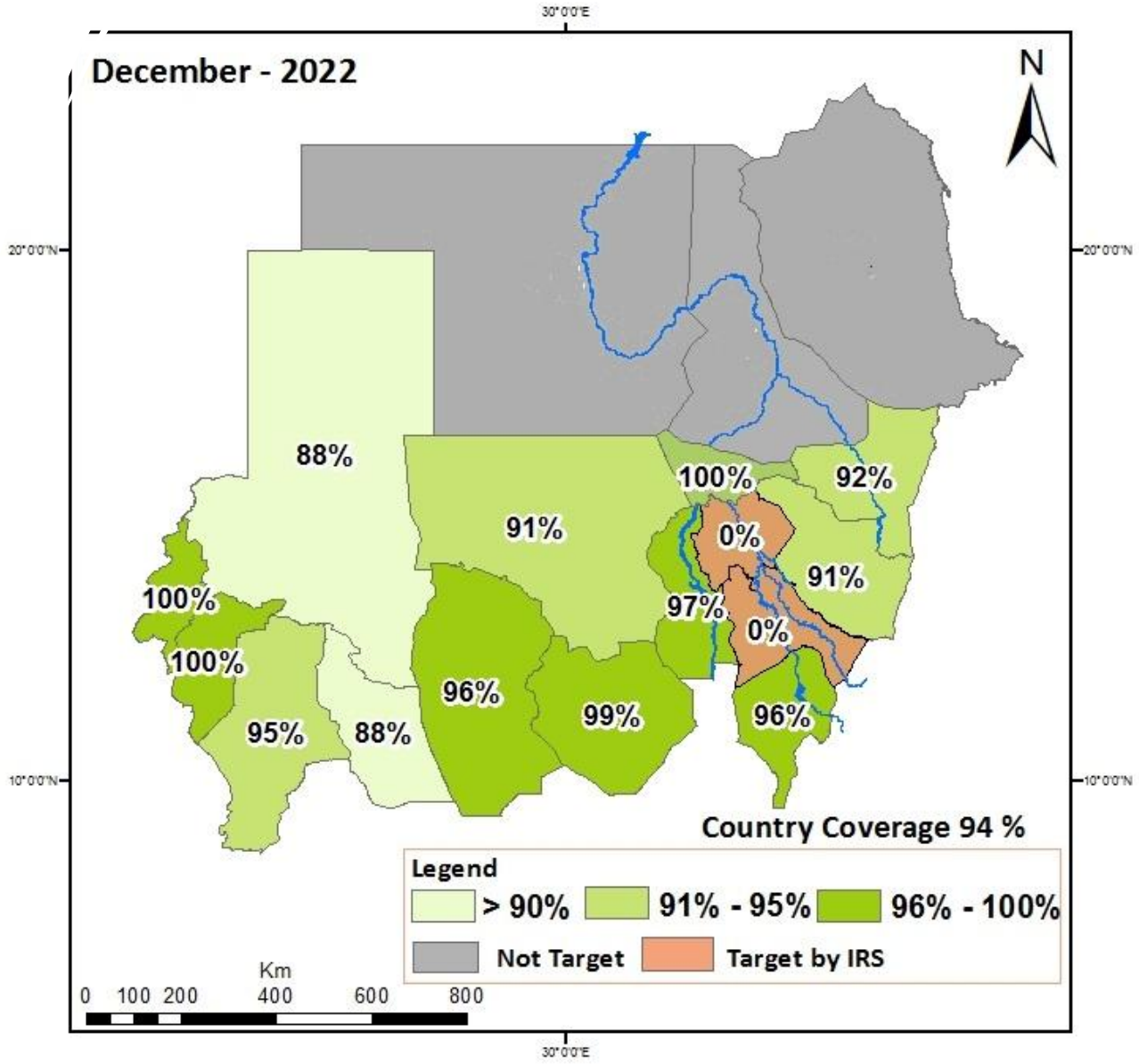
Implementation Status: Is the country on track with addressing the MSP targets :

Indicator	Base line 2019	2022 target	Achievement	Status
Proportion of households covered by IRS in targeted area	97.3%	95%	0	Not implemented
% of population covered by IRS in targeted area	97.5%	95%	0	Not implemented
Proportion of target populations potentially covered by ITNs	98%	95%	94%	
% of household population who slept under ITN the night before survey in targeted states	49.4% (2018)	49.4%	Non reported	Not implemented

Major achievements

National LLINs mass distribution campaign, 18.3 million LLINs was distributed covering more than

36.3 million Personnel in 148 Localities at 13 State with a total coverage of 94%




THE GLOBAL FUND


Supreme
NUMBER

Major achievements

Malaria clinical mentoring team in the States with a high malaria burden Hosting high number of IDPs .

Major achievements

- Malaria Program Review 2023
- Conduct sub national tailoring
- Update the National Malaria Strategic Plan 2021-2026
- Global fund grant application 2024-2026
- Update malaria case management protocol 2022
- Training of care providers and refresher training on updated malaria case management protocol

GC7 Funding request development

Major bottlenecks/challenges

- The ongoing war
- Internal displacement, overcrowding, and poor housing conditions in the hosting areas
- Movement of the FMOH staff to different states with communication constraints
- Data quality (incomplete reporting) and data lost
- The low usage of LLINs so far from the strategic target.
- Frequent/annual detection of outbreaks of malaria and arboviruses diseases
- Sustainability of malaria financing
- Different malaria threats
- Stock out of malaria medicine

Gap analysis 2024

Item	NEED	FINANCED	GAPS
LLINs (*number of nets*)	6,136,604	2,508,606 (dual nets, and are a replacement strategy for the IRS due budget constraints)	3,627,998
ACTs (number of treatment doses)	10,851,871 1st and 2nd lines need of ACTs	7,700,654	3,151,217 The gap is the amount of ACTs that are planned to be covered by the private sector, and due to war we might have shortages of this ACTs provided by the private sector
RDTs (number of RDTs)	1,542,398	1,542,398	0
Total US$ need essential services *(from your gap analysis sheet)*	77,306,191	60,532,090	16,77,101
Other costs *(add as required)*			
Total US$ need malaria strategic plan	77,652,864 M	There is no track of the commitments for the 3 years so far? However TGF GC7 covers 20,966,273 M which is 28% of the total need	

Gap analysis 2025

Item	NEED	FINANCED	GAPS
LLINs (*number of nets*)	2,811,674	0	2,811,674
ACTs (number of treatment doses)	10,248,989 1st and 2nd lines need of ACTs	7,272,840	2,976,149 The gap is the amount of ACTs that are planned to be covered by the private sector, and due to war we might have shortages on this ACTs provided by the private sector
RDTs (number of RDTs)	5,921,052	5,921,052	0
Total US$ need essential services *(from your gap analysis sheet)*		12,531,826	
Other costs *(add as required)*			
Total US$ need malaria strategic plan	181,979,604	There is no track of the commitments for the 3 years so far? However TGF GC7 covers 50,954,289 M which is 28% of the total need	

Gap analysis 2026

Item	NEED	FINANCED	GAPS
LLINs (*number of nets*)	19,904,407	12,906,654	6,997,753
ACTs (number of treatment doses)	9,646,108 1st and 2nd lines need of ACTs	6,845,027	2,801,081 The gap is the amount of ACTs that are planned to be covered by the private sector, and due to war we might have shortages on this ACTs provided by the private sector
RDTs (number of RDTs)	6,762,002	6,762,002	0
Total US$ need essential services *(from your gap analysis sheet)*			
Other costs *(add as required)*		12,216,074	
Total US$ need malaria strategic plan	132,251,386	There is no track of the commitments for the 3 years so far? However TGF GC7 covers 37,030,388 M which is 28% of the total need	

2023 Implementation Support (TA) /Anticipated TA requirements for 2024

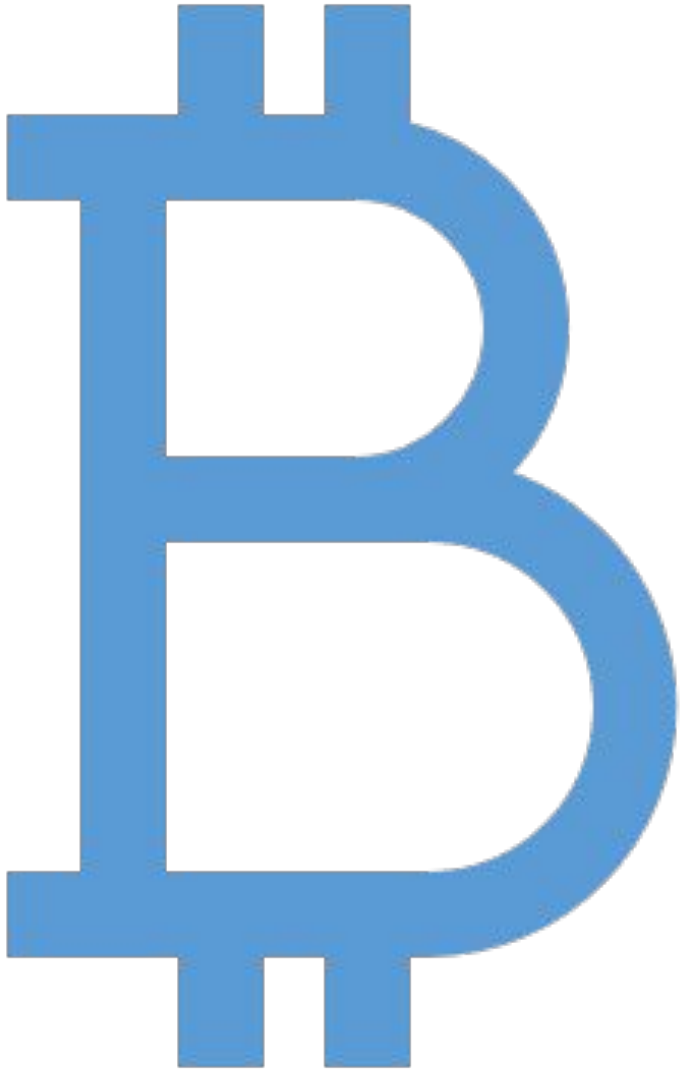
Activity	Support type (TA or financial) (local or international),	Period
Malaria Indicators Survey	International and national consultant	2024
Update national strategic plan for insecticide resistance management	International and national consultant	2024
Update IVM strategic plan including VCNA	International and national consultant	2024
LLINs distribution campaign in Gazera and Senar 2024 , 2.5 million dual net	National consultant	2024
Resource mobilization	International and national consultant	2024

2023 Implementation Support (TA) /Anticipated TA requirements for 2024

Activity	Support type (TA or financial) (local or international),	Period
Malaria control during crises	International and national consultant	December-2023
ICCM strategic plan including assessment for implementation.	International and national consultant	2024
CSO plan and mapping	International and national consultant	2024

Best practices:

- Harmonization of efforts with relevant government sector , institute and partners
- Malaria financing from domestic resources was prioritized during the current crisis
- Implementation of SNT



Subnational tailoring of intervention analysis
The Sudan

WHO technical support
March 2023
Khartoum, Sudan

Global **Malaria** Programme

World Health Organization

- Databases are coming from:
  - 1) DHIS2 OPD and IPD
  - 2) Laboratory DHIS2
  - 3) NMSF

Variable	Disaggregation
✔ Outpatients all causes	2017-2022: Per HF
✔ Patients suspected of having malaria	Calculated
✔ Tested (by RTD, and by microscopy)	2017-2022: Per HF
✔ Confirmed (by RTD, and by microscopy) and per species	2017-2022: Per HF
✔ Patients treated with an antimalarial drug	Years available: Per HF / Comm and Age group
✔ All-cause hospitalizations	2017-2022: Per HF
✔ Malaria-related hospitalizations	2017-2022: Per HF
✔ Severe malaria cases	2017-2022: Per HF
✔ All-cause deaths	2017-2022: Per HF
✔ Malaria-associated deaths	2017-2022: Per HF
✔ Population by district	CBS 2017 - 2020 OCHA 2021-2022

- Incidence of malaria cases
  - Estimated using WHO methodology
- Malaria prevalence
  - KEMRI
- All-cause mortality
  - IHME estimates

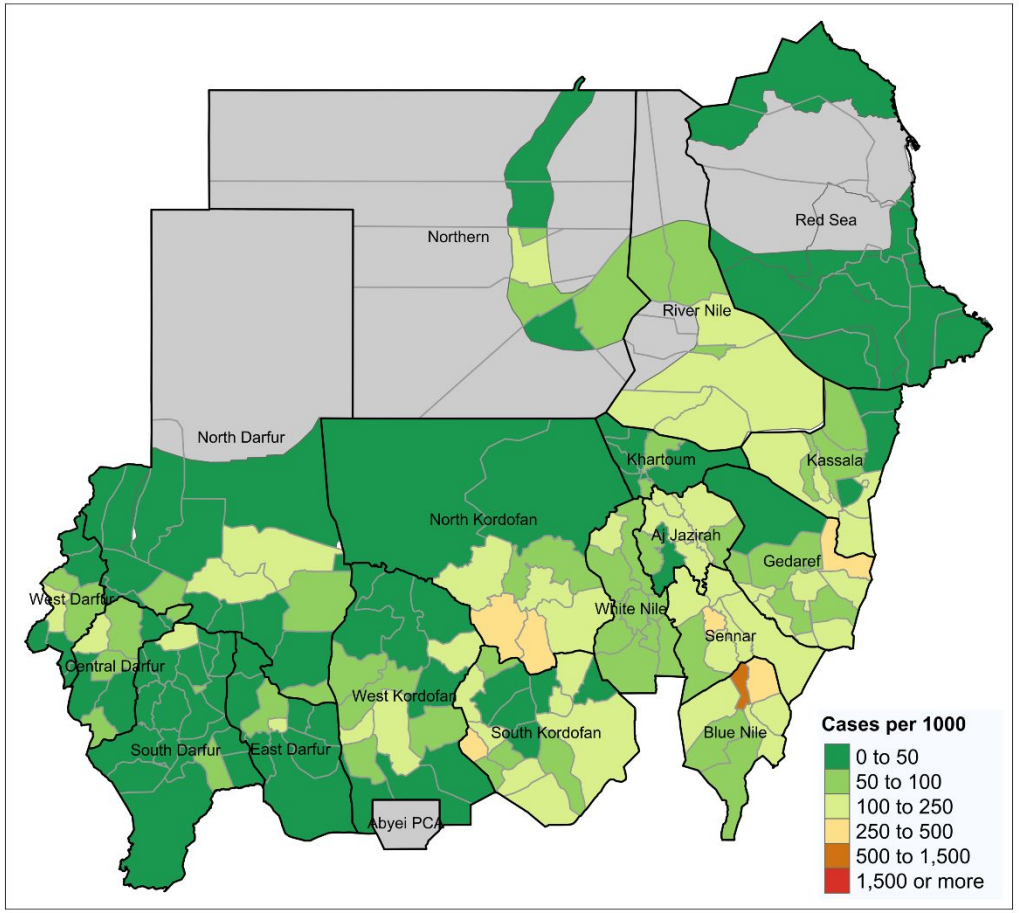
Public sector → *Private sector and community*

Adjustment level	Crude	Testing rates	+ Reporting rate	+ Care-seeking behaviour *assuming the same TPRs in all sectors*
Numerator calculations	**C** C = Confirmed cases	**N1= C + [P * (C/T)]** N1 = Corrected cases *(calculated separately for HFs and Hospitals)* P= Suspected cases T = Tested	**N2= N1/R** N2 = Corrected cases *(calculated separately for HFs and Hospitals)* R= Reporting rate	$N3 = N2 + \left(\frac{N2 \times CS_{Pr}}{CS_{Pu}}\right) + \left(\frac{N2 \times CS_{n}}{CS_{Pu}}\right)$ **Percentage of** children with fever in the previous 2 weeks who were managed by the public (CSPu) or private sector (CSPr), or who were not managed (CSn)
Assumptions and points of uncertainty	C = confirmed + presumed in areas where cases were only captured by OPD without lab confirmation	Assumes that the TPR among P is similar to the TPR among the tests P can be i) directly reported; ii) **calculated as suspected - tested**; or *iii) calculated as treated - confirmed. Depending on the reporting guidelines, P may not be reliable.	Assumes that unreported data follow a similar distribution to reported data Seasonal variations in reporting rates may not be taken into account if annual reporting rates are used. ***District-level reporting rates do not provide information on the absolute number of HF that should be reported over time**	***Assumes that i) the TPR of febrile children who sought care in the private sector or who did not seek care is the same as the TPR observed in the public sector; ii) the patterns of care-seeking behaviour in adults resemble those in children.** Care-seeking behaviour is only available for children under 5 in the surveys. Survey estimates are reported at the provincial level and other district level interpolations have their own uncertainties.

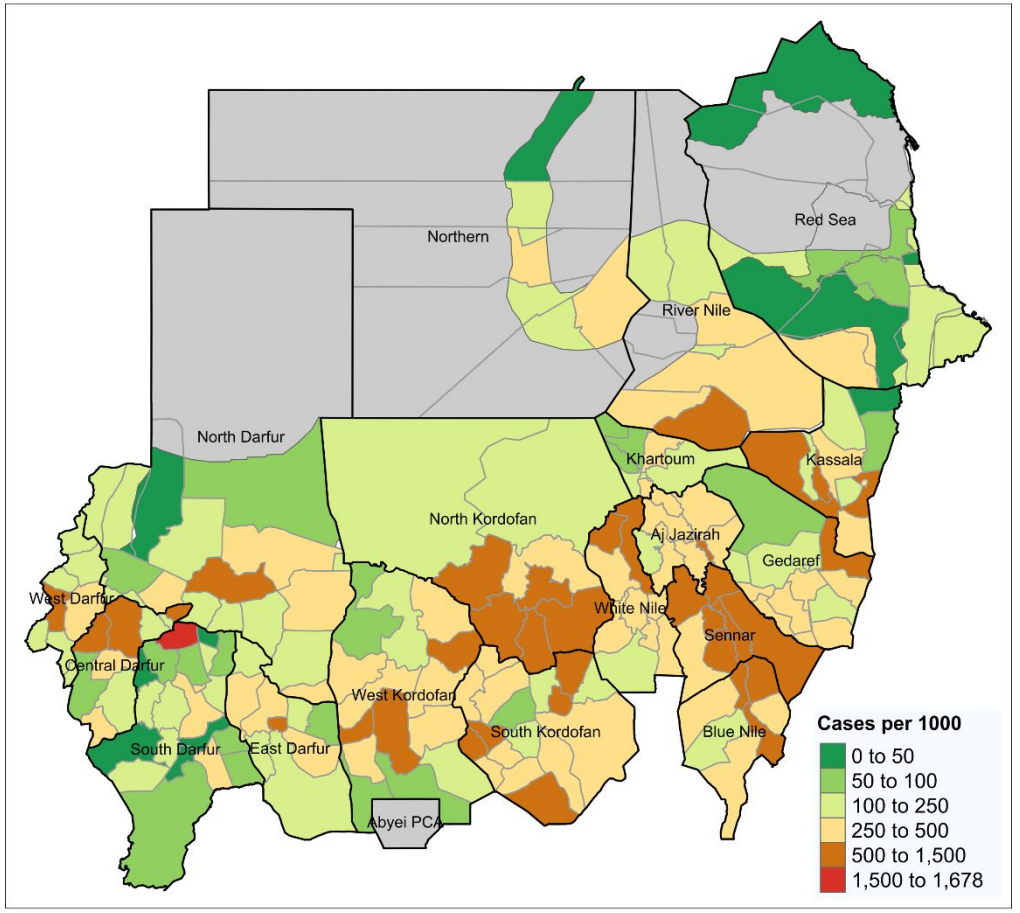
Strengths of the WHO approach

- ✔A **phased adjustment** approach that allows for specific adjustments to be made according to the country context
- ✔Targets the **main problems associated with** routine data (e.g. completeness and completeness rates)
- ✔**Distinguishes between** public, private and non-care seeking behaviour
- ✔The equations are parameterised using **district-level data** (or provincial-level estimates from surveys)
- ✔The equations are **simple and can be easily modified according to the** countries' demands

Crude



Adjusted



Step 1: Combination of Prevalence and incidence

PfPR2-10	Score
0-<1%	1
1-<5%	2
5-<10%	3
10-28%	4

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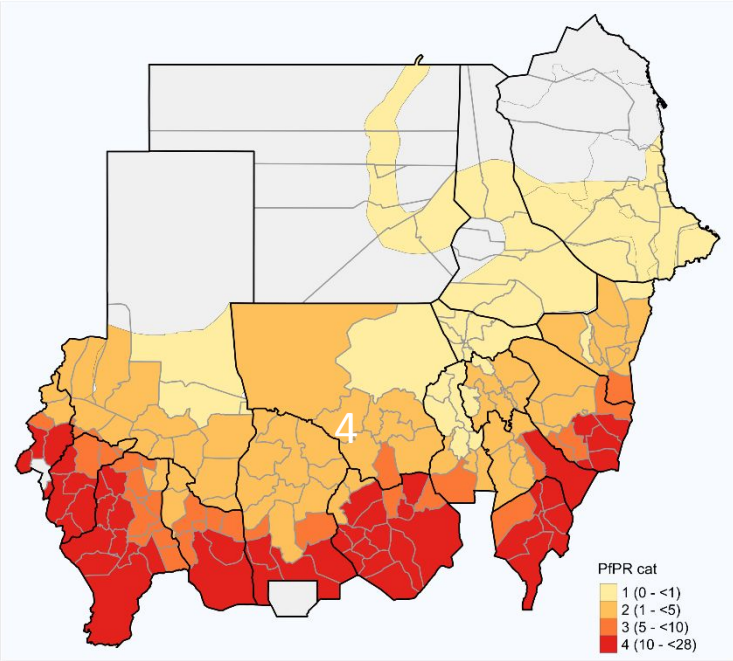
Adjusted Incidence	Score
0-<100	1
100-<250	2
250-<450	3
>=450	4

=

Step 1: Strata	Sum of prevalence and incidence scores	score
Very low	1-3	1
Low	4	2
Medium	5-6	3
High	7	4
Very high	>7	5



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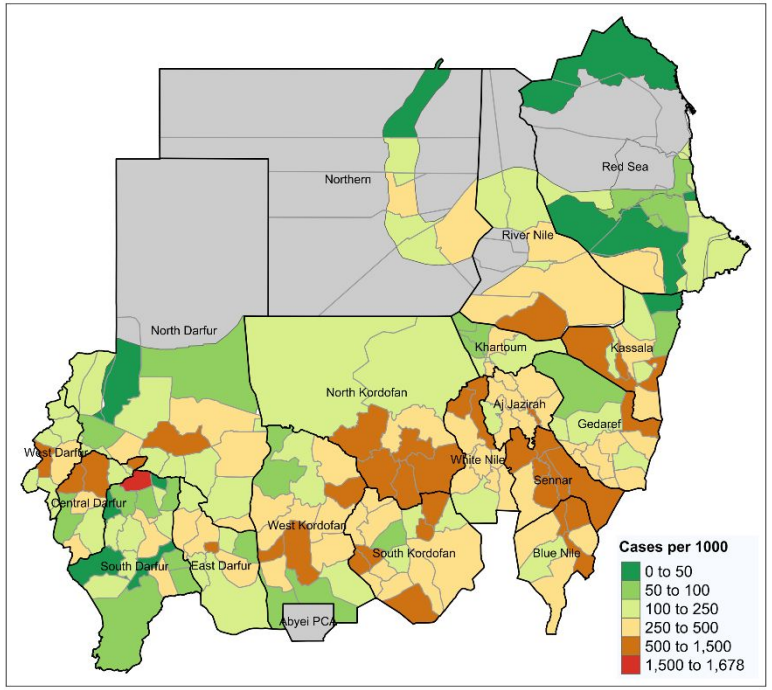
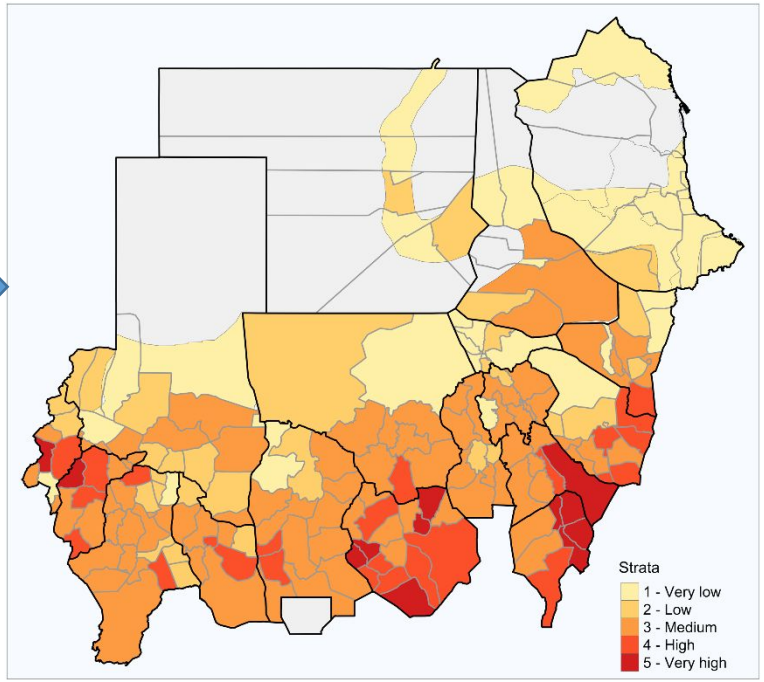
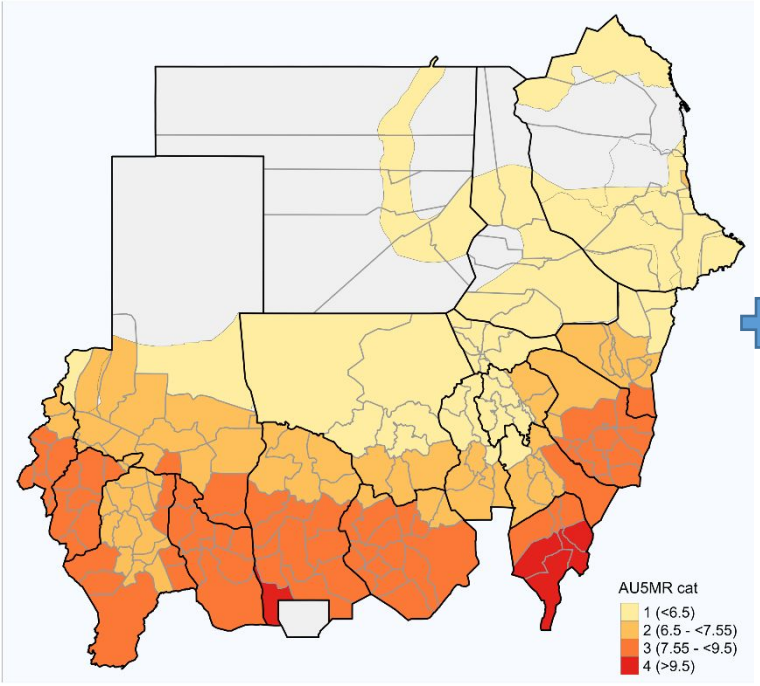


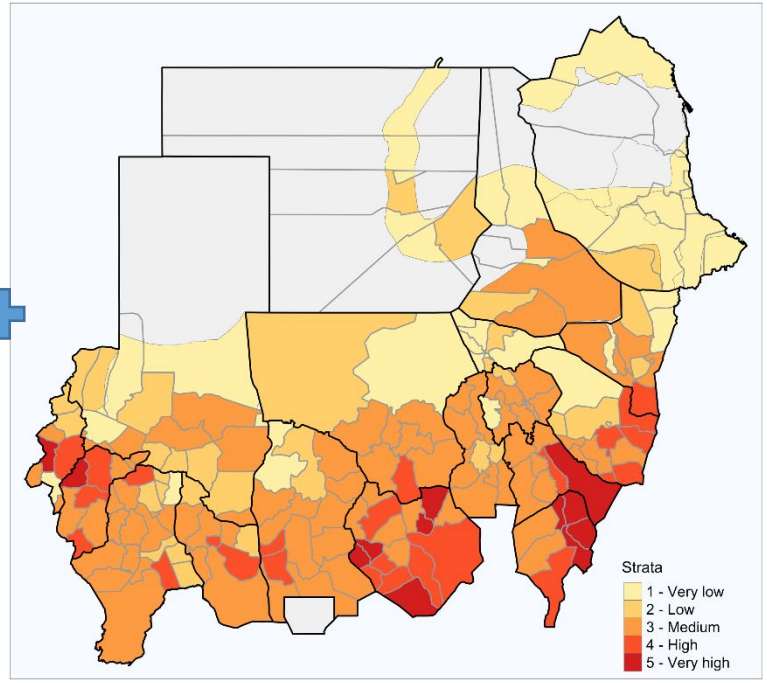


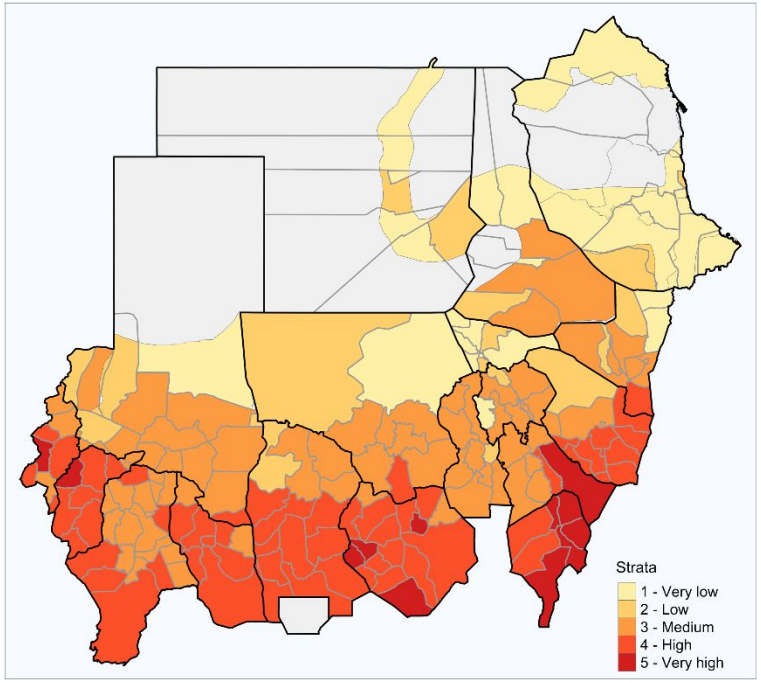
AU5MR	Score
< 6.5	1
6.5-<7.5	2
7.5-<9.5	3
>=9.5	4

Step 1: Strata	Sum of prevalence and incidence scores	Score
Very low	1-3	1
Low	4	2
Medium	5-6	3
High	7	4
Very high	>7	5

Step 2: Strata	Sum of prevalence, incidence and mortality scores	Score
Very low	2	1
Low	3	2
Medium	4-5	3
High	6-7	4
Very high	>7	5

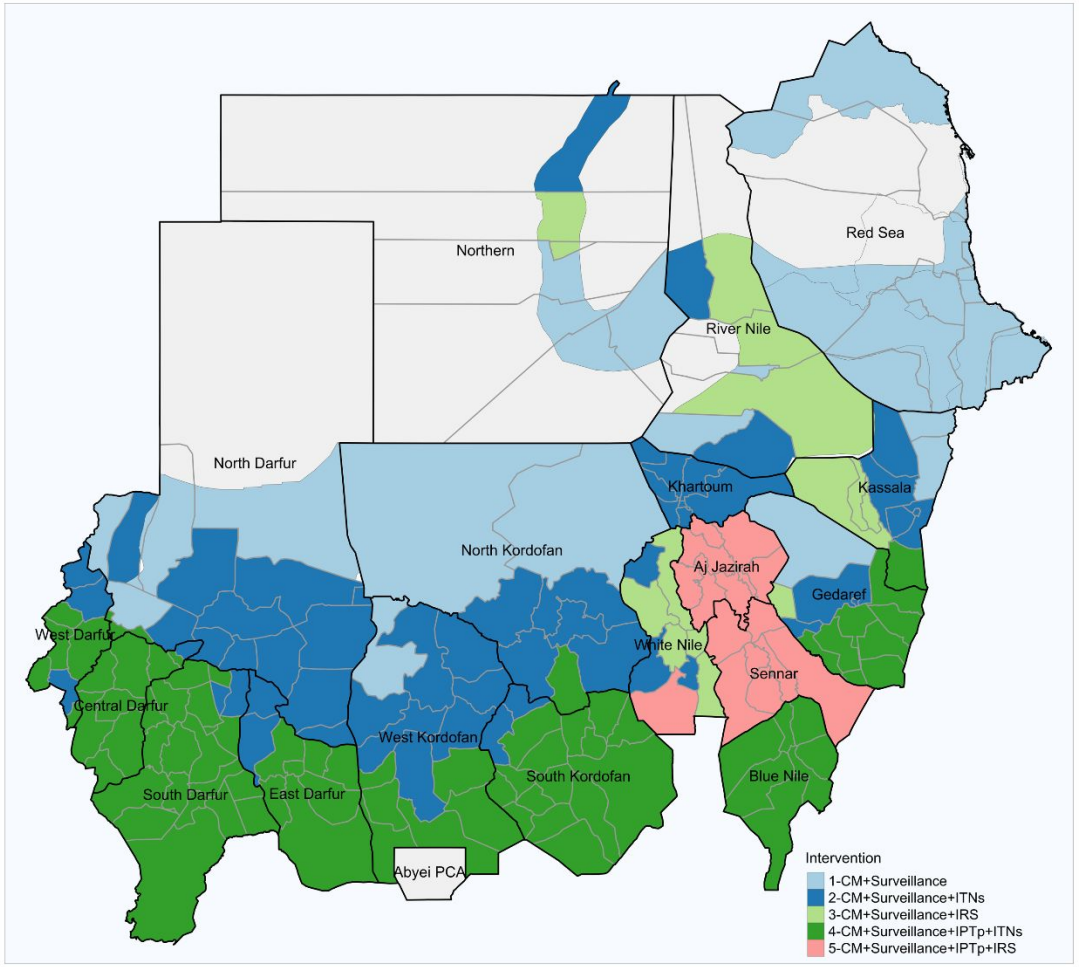


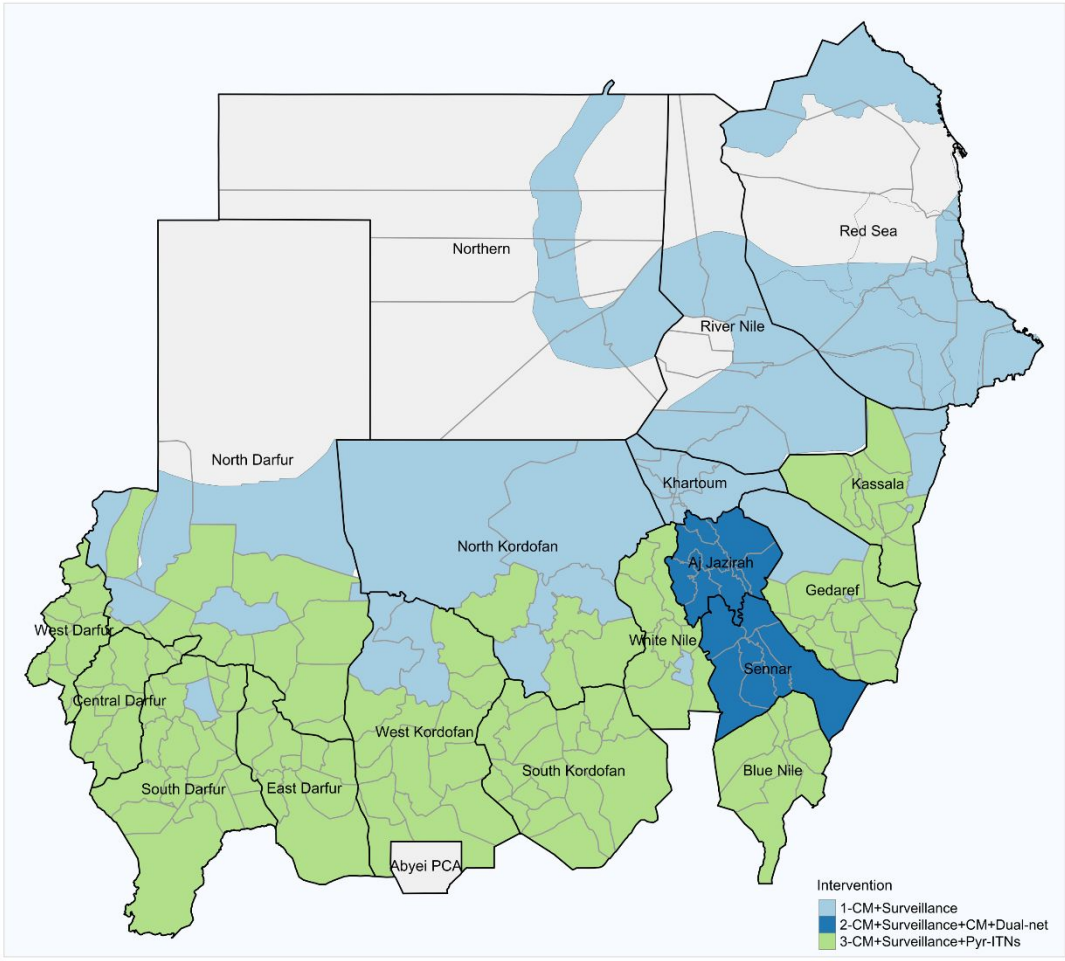




INTERVENTION TYPE	TARGETING CRITERIA FOR THE STRATEGIC PLAN	TARGETING CRITERIA FOR PRIORITIZATION
Facility based malaria case management	In all localities with malaria-endemicity. This applies to all Sudan localities	All functioning public health facilities in all the localities of the country
iCCM / Community case management of malaria	from the composite map V. high, High and medium localities where there is low access to healthcare facilities.	Prioritization pending the update based on current mapping of service availability
Indoor residual spraying	Rural areas of perennial transmission as a result of irrigation activities (Type of insecticide derived by insecticide resistance monitoring results)	Not prioritized for TGF allocation due to budget limitation, advocacy for resources mobilization continues
ITNs	Very high, high, medium, and low burden localities as per the composite map. In case of resources are not available for IRS ALL areas strategically targeted by IRS will be covered by ITNs. New generation nets (Dual) will be distributed where there is confirmed pyrethroid resistance.	Very high, high, and medium burden localities as per the composite map. Microstratification for the Localities prioritizing rural areas in the medium burden category. The gap in coverage of the strategy is to be advocated for.
LSM	Urban areas with few fixed and findable breeding sites (TBD)	Not prioritized for the global fund to be advocated for.
Seasonal malaria chemoprevention SMC	Based on the seasonality analysis, potential areas for the intervention will undergo through further preparatory activities during the remaining strategic period	
Intermittent preventive treatment during pregnancy (IPTp)	Localities with Prevalence >5% Microstratification based on the implementation capacity, prioritizing states where implementation started by training.	Not prioritized for the global fund government and other resources
Malaria vaccine	Localities with moderate or high transmission	Areas with the highest transmission and mortality (according to the WHO prioritization framework)

Interventions mix





Projection of impact using mathematical modelling to inform decision making.


Thanks