
Subnational tailoring of malaria interventions and strategies

Dr. Beatriz Galatas

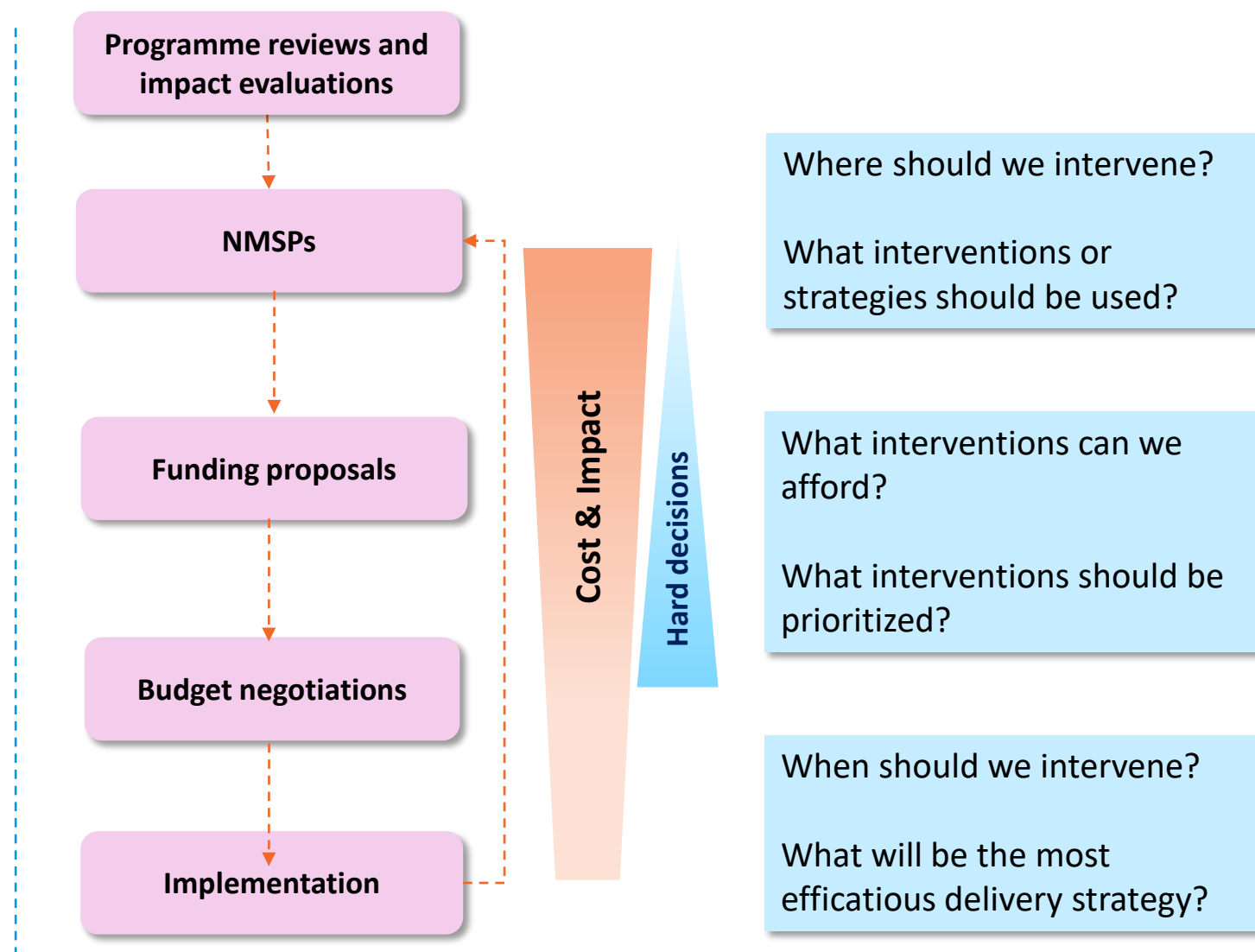
Strategic Information and Response Unit

Global Malaria Program

What?

Subnational tailoring of malaria interventions (SNT)

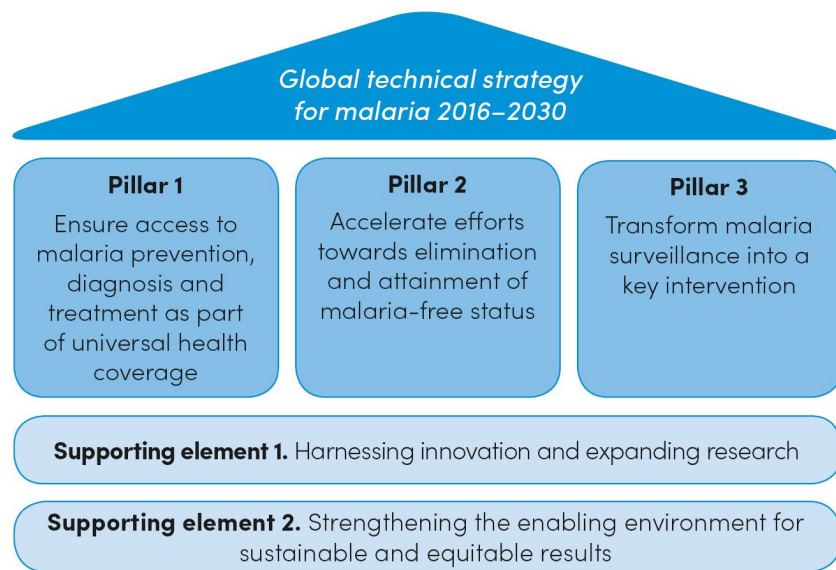
The use of local data and contextual information to determine the appropriate mixes of interventions and strategies, for a given area, for optimum impact on transmission and burden of disease



Why?

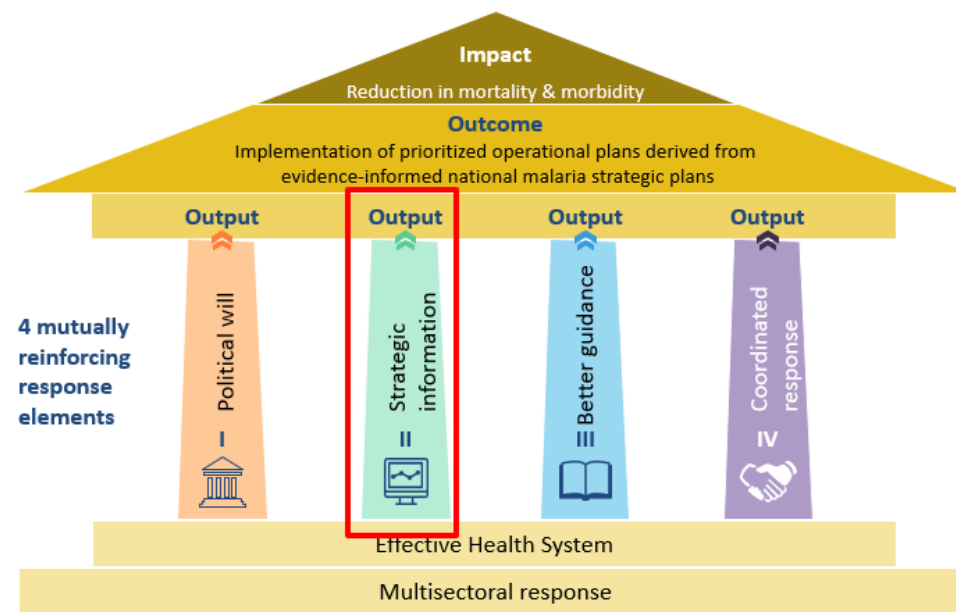
Anchored on the basic principles of good public health - that **health policies should be informed by the best possible evidence derived from the best available data and information.**

Global Technical Strategy



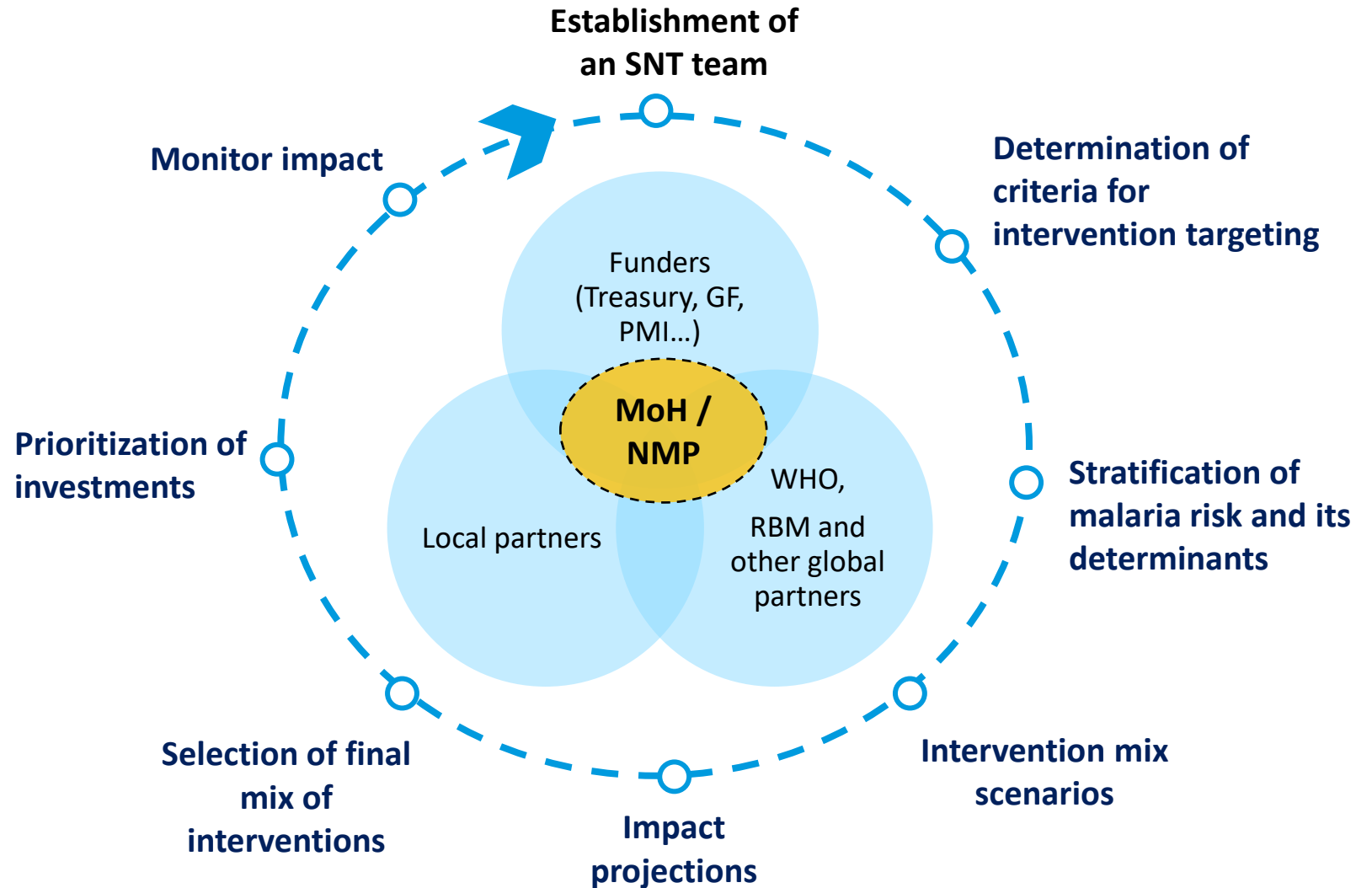
A key pillar of the GTS is the use of **surveillance and local data for decision making by malaria programs and partners** to achieve malaria elimination

High Burden to High Impact



How?

The process requires a system-wide and multi-stakeholder participation anchored on the broad principles of health sector priority setting

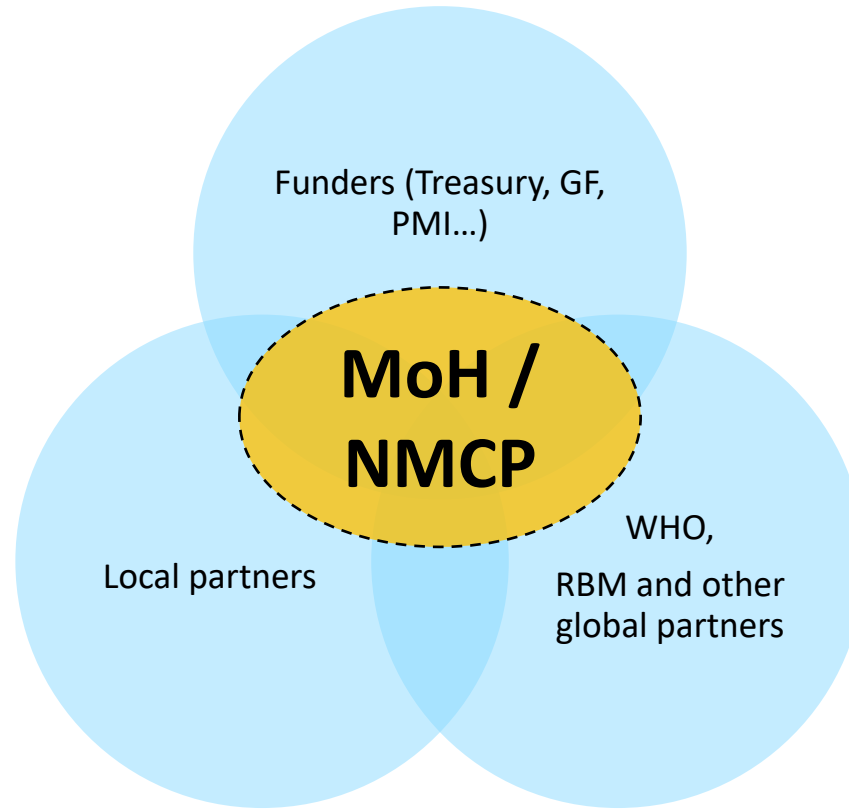


How?

Establishment of an SNT team



Lead by NMCP but includes other government departments, national, regional and global partners with consent from the NMCP. This team is responsible for the whole process, from **data assembly, analysis, strategy development, resource mobilization and prioritization, and implementation.**



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Determination of criteria for intervention targeting

The national team compiles all interventions and strategies under consideration and develops the criteria to be used for tailoring each one of them building on the WHO normative guidance

WHO recommended interventions and targeting criteria adapted to country context

	Transmission (Incidence, Prevalence, Mortality, etc)	Age distribution of burden	Seasonality	Entomo- logical indicators	Environment and urbanicity	Vulnerable populations, conflict, emergencies	etc ¹
ITNs	+			+	+	+	
IRS	+		+	+			
LSM	+			+	+		
SMC	+	+	+				
MDA	+	+				+	
IPTp	+						
PMC	+	+	+				
Vacc.	+	+					
iCCM	+					+	
Surv.	+	+					
etc ²							

1- Health system capacity, access to care, EPI coverage, previous exposure to interventions, community acceptability ...

2- Targeted improvements of case management, surveillance systems, intervention-specific delivery strategies ...

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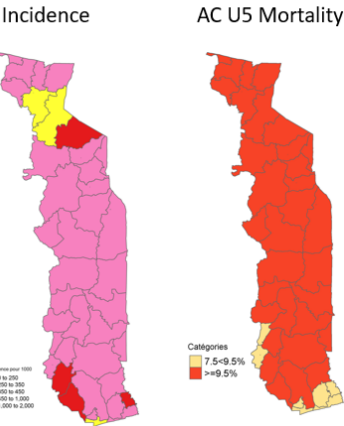
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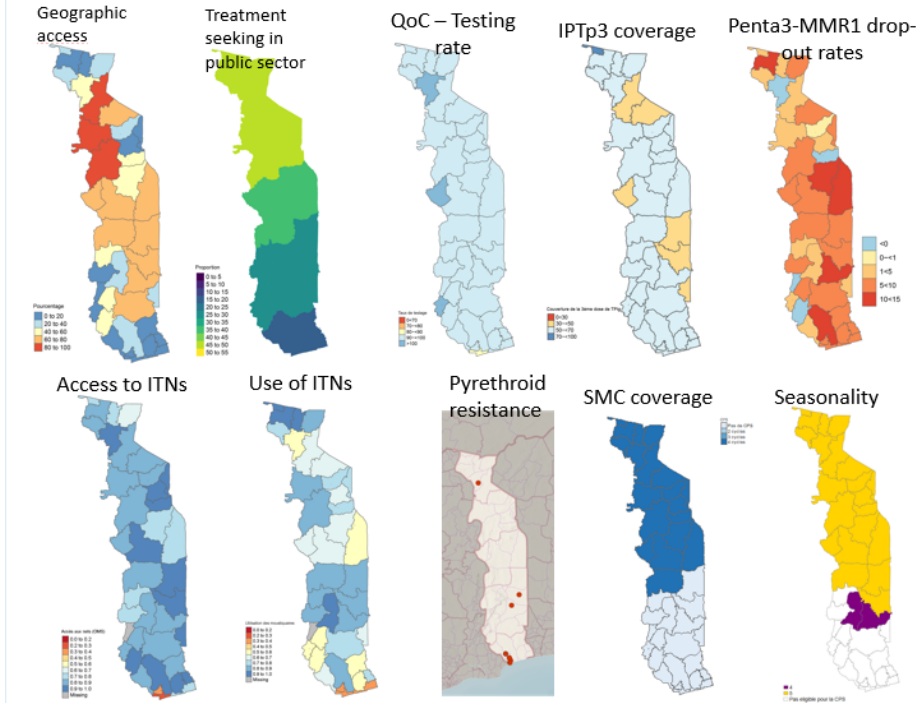
Stratification of malaria risk and its determinants

Ecological, interventional, systemic, social and other **determinants are stratified at operational units of relevance and in ways that answer the specific question at hand based on the agreed upon criteria.** As such the process of stratification depends on the specific intervention or strategy under discussion and moves away the use epidemiological metrics alone. **Here statistical and geospatial methods are useful.**

Epidemiological stratification



Contextual factor stratification



How?

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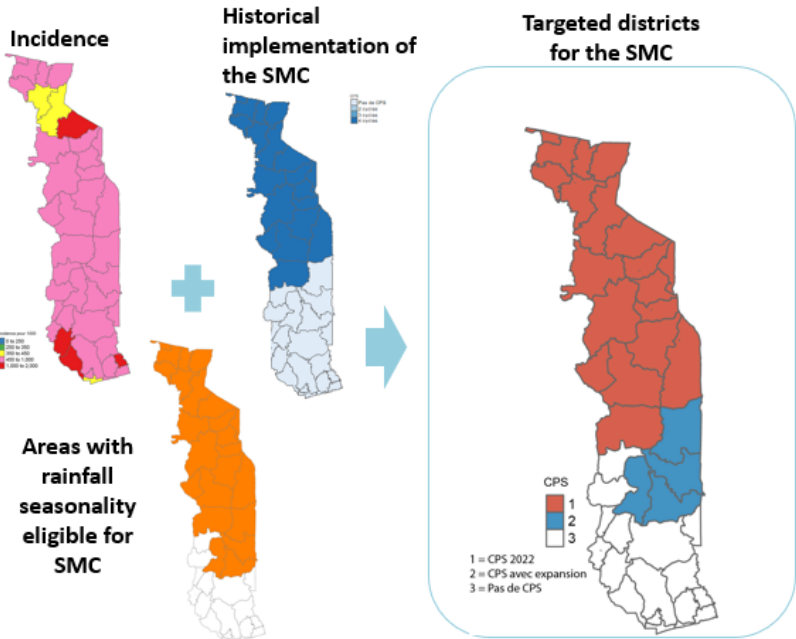
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Intervention mix scenarios

Stratified layers required to inform intervention or strategy-specific criteria are used to develop various scenarios of intervention mixes

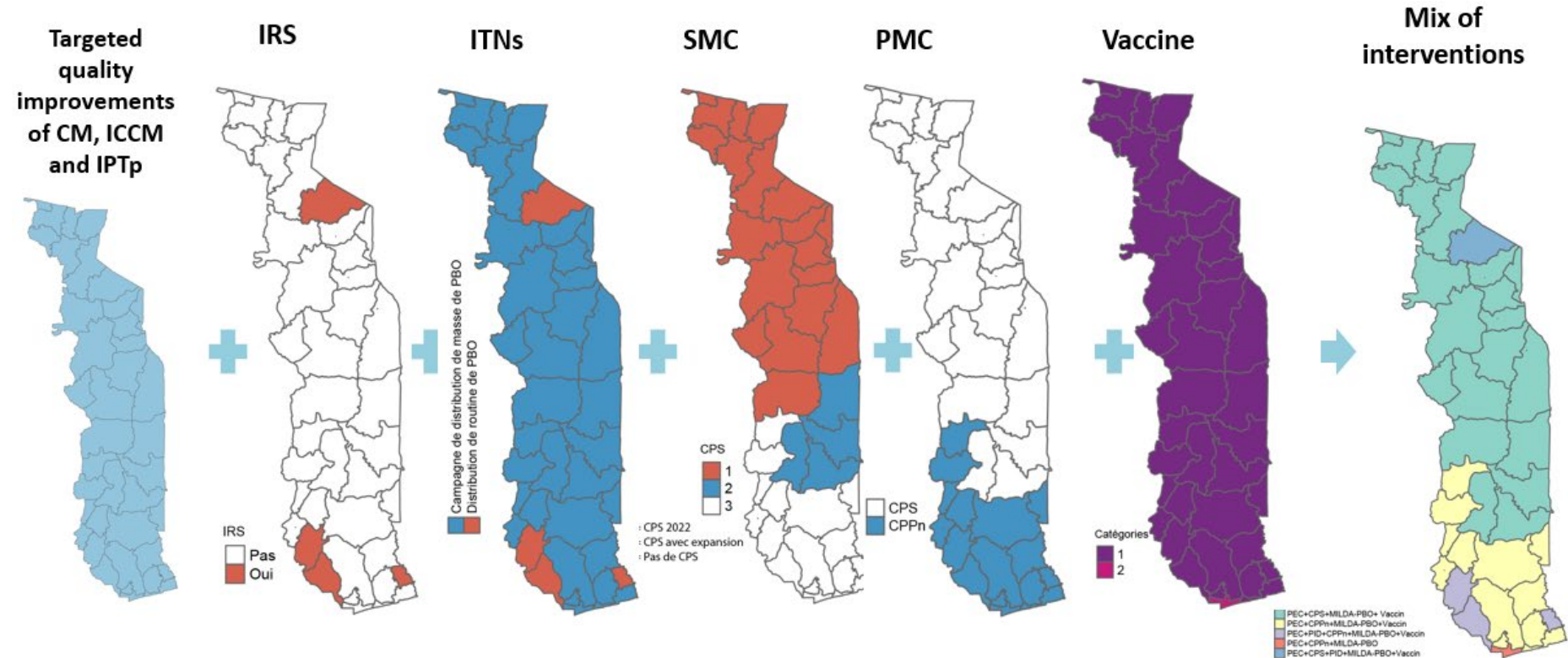
	Transmission (Incidence, Prevalence, Mortality, etc)	Age distribution of burden	Seasonality
SMC	+	+	+



How?

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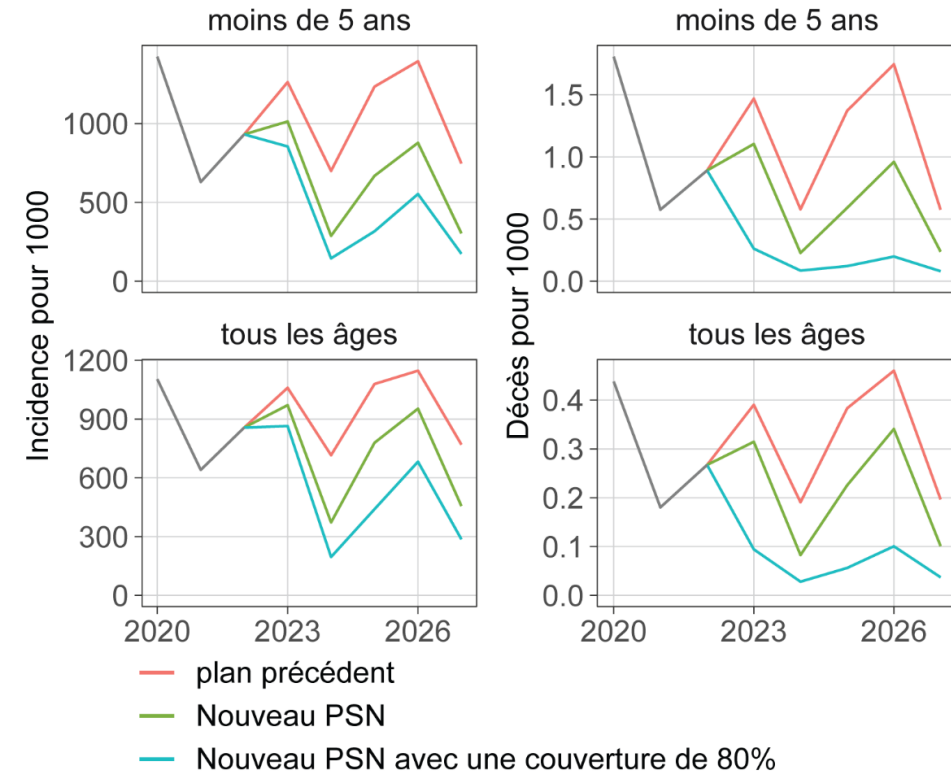
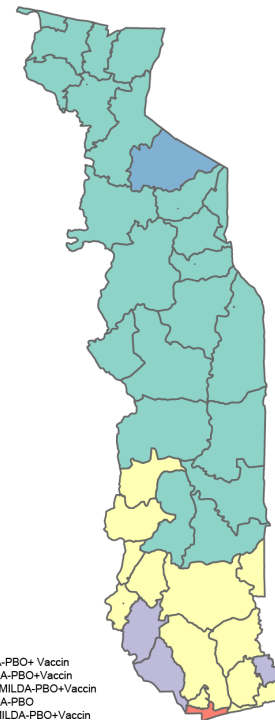
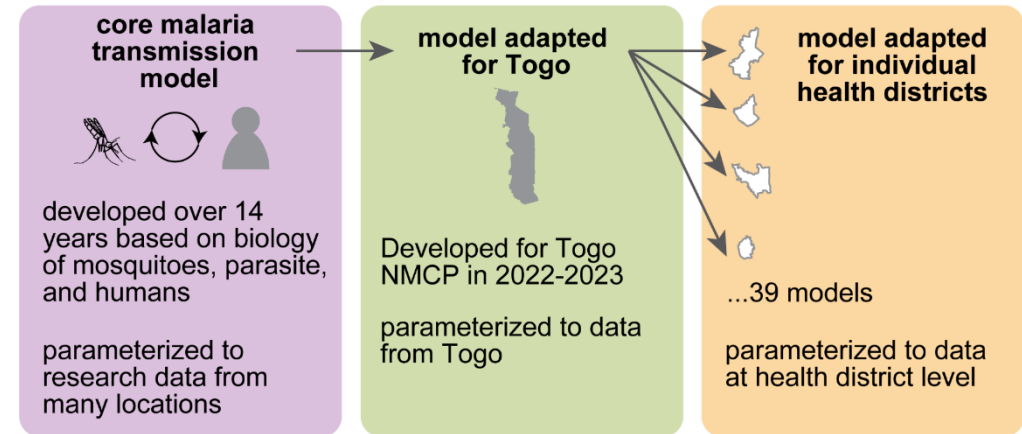


How?

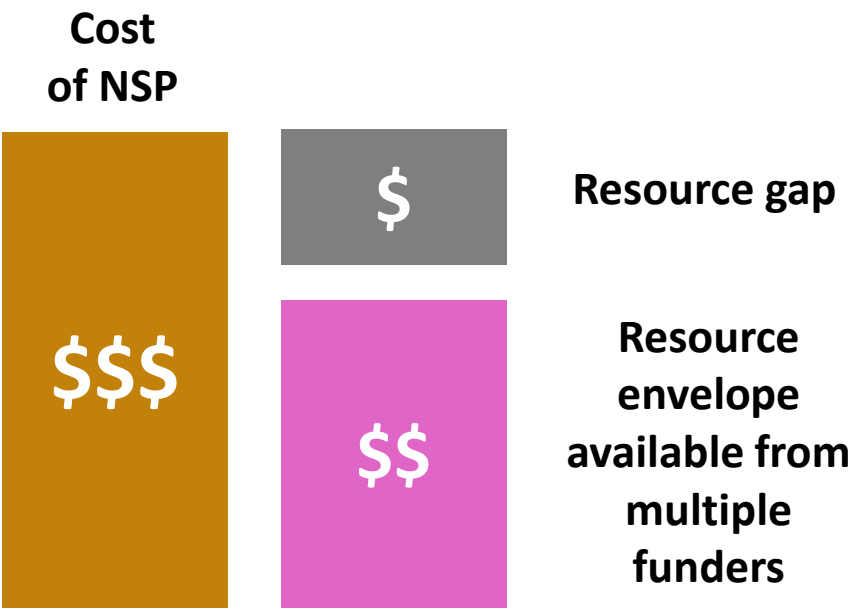
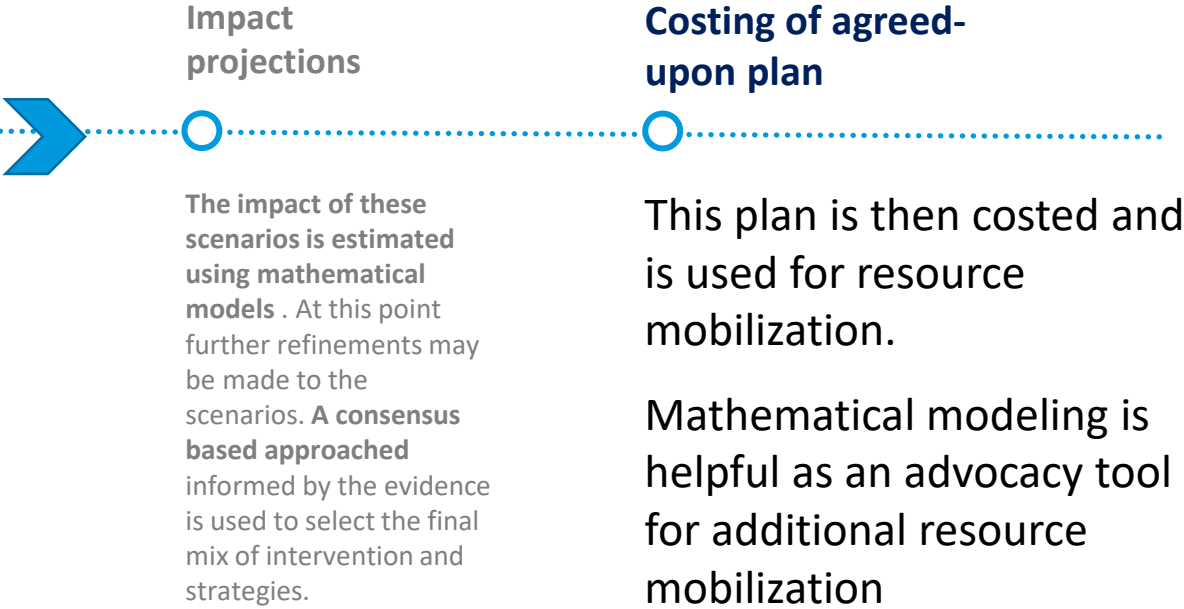
Impact projections

The impact of these scenarios is estimated using mathematical models. At this point further refinements may be made to the scenarios. A consensus based approached informed by the evidence is used to select the final mix of intervention and strategies.

PEC+CPS+MILDA-PBO+ Vaccin
PEC+CPPn+MILDA-PBO+Vaccin
PEC+PID+CPPn+MILDA-PBO+Vaccin
PEC+CPPn+MILDA-PBO
PEC+CPS+PID+MILDA-PBO+Vaccin



How?



How?

Costing of agreed-upon plan

This plan is then costed and is used for resource mobilization.

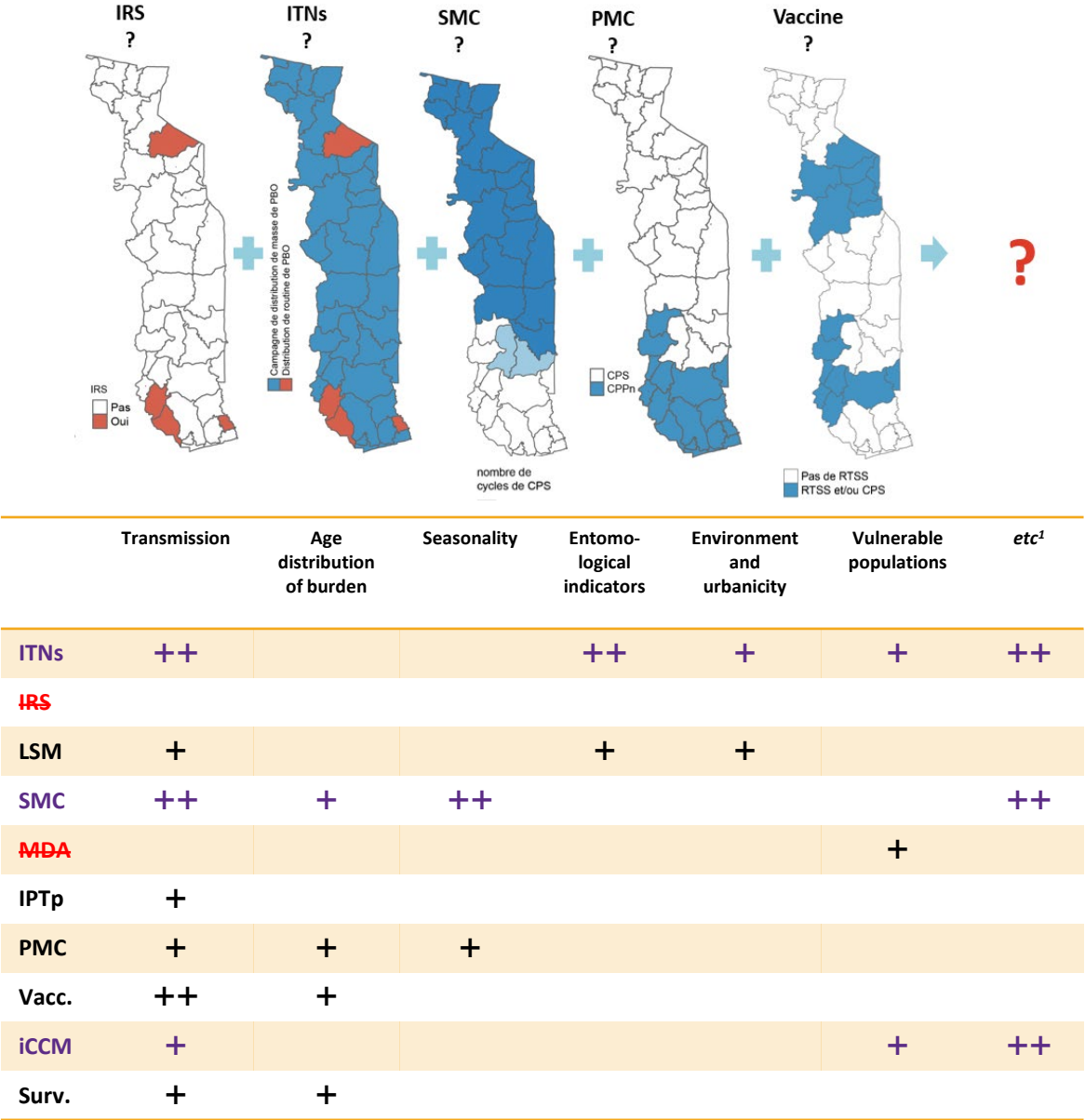
Mathematical modeling is helpful at this point to assess the impact of the various prioritization decisions.

Prioritization of investments

Once there is clarity in the available resources, the costed strategic plan is used as the basis to further inform rational prioritization of investments to maximize impact if the resources are insufficient.

This is usually the most challenging part of the process.

Mathematical modeling is helpful at this point to assess the impact of the various prioritization decisions.



Criteria for prioritization

01

Highest transmission areas

Relative to the transmission spectrum of the DRC, as the country has high transmission nearly everywhere.

02

Highly urbanized health zones

With ecologies less suitable for the vector population, improved infrastructure, SES, access to care, behavior unfavorable to enable effectiveness of vector control, etc.

03

Areas with substantial impact of previous campaigns

Where the scale back of ITN distributions could lead to much greater resurgences than in areas where receptivity is similar, but the impact is lower.

04

Currently low transmission but high receptivity

Determined by prevalence of infection before the scale-up of community-based interventions (2000)

05

Limited access to healthcare

06

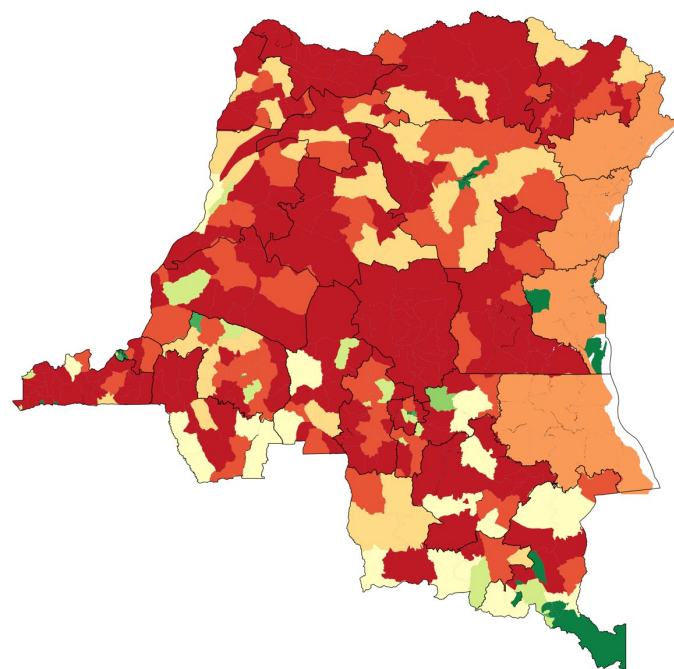
Presence of parasites resistant to ACTs

07

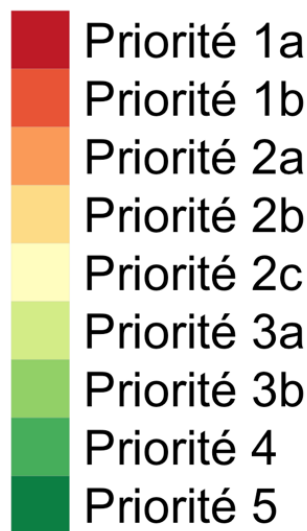
Presence of Internally displaced people

▶ Data on resistance to pyrethroids to determine the type of net needed in priority areas.
Access to and use of mosquito nets will not be used as areas with low access and use should not be penalized

Prioritization of districts

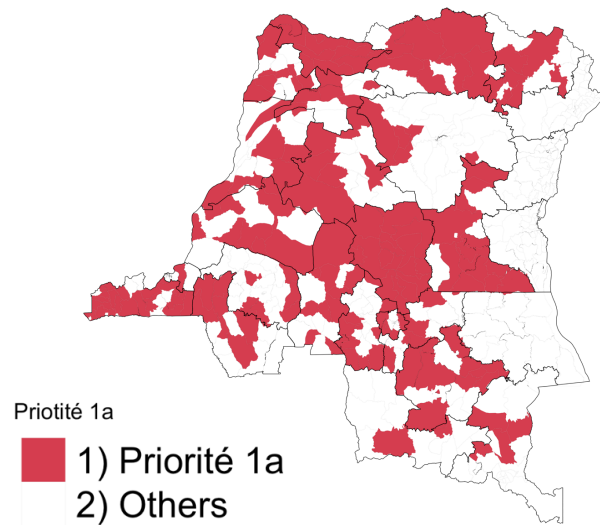


Categories

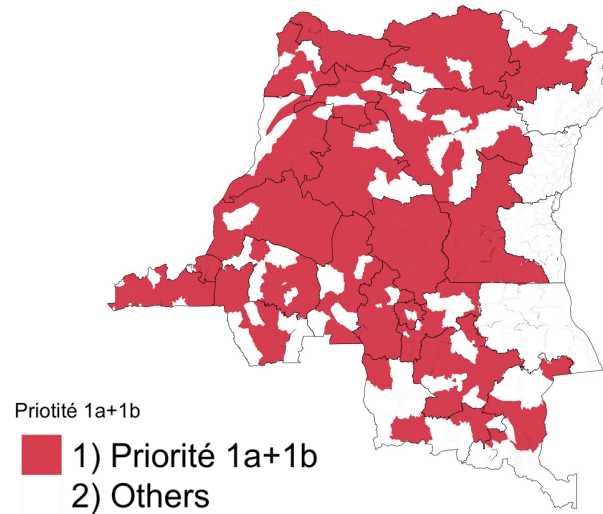


Priority	Number of health zones
Priorité 1a	182
Priorité 1b	69
Priorité 2a	106
Priorité 2b	41
Priorité 2c	23
Priorité 3a	22
Priorité 3b	1
Priorité 4	6
Priorité 5	69
Total	519

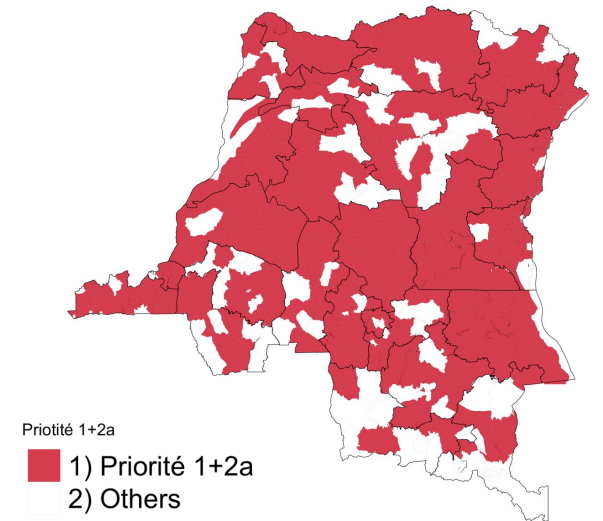
Costing approaches considering a \$210M cap



Priority	Cost
1a	\$ 115,820,174



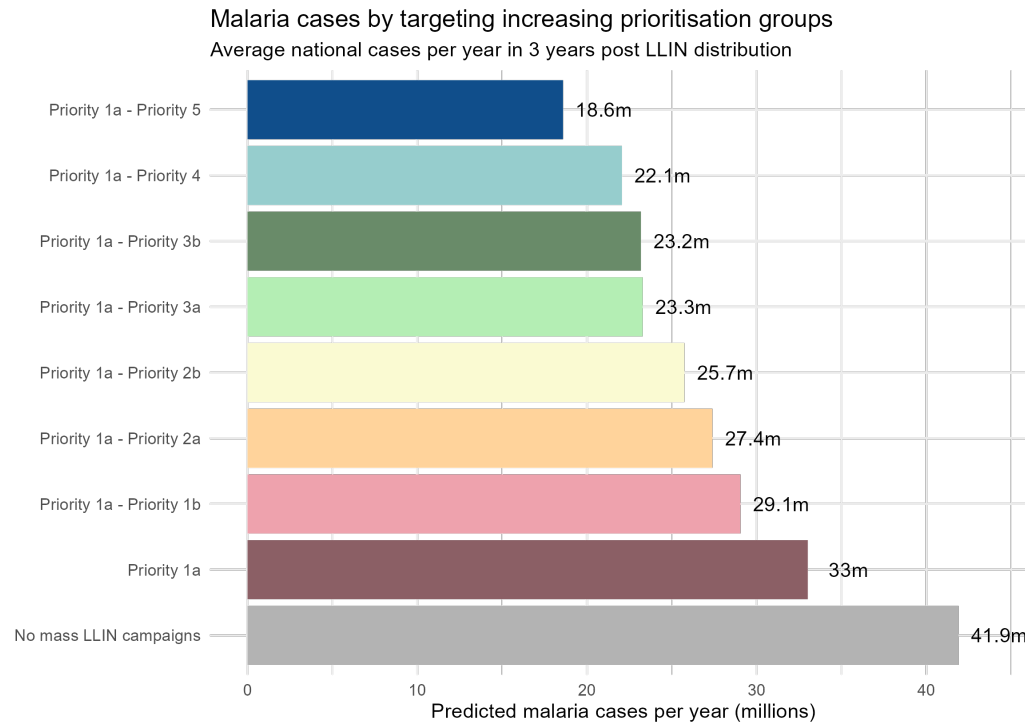
Priority	Cost
1a+1b	\$ 163,697,514



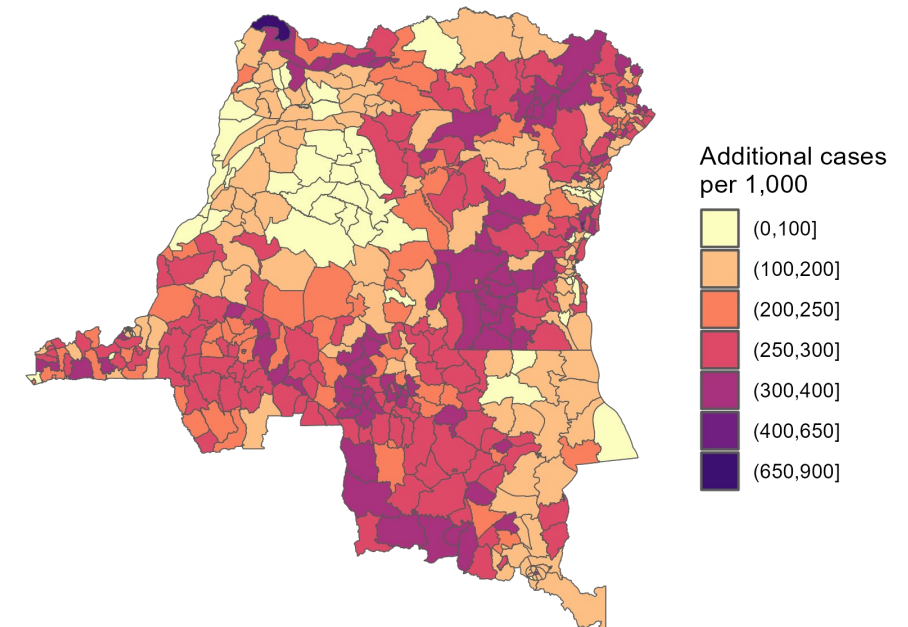
Priority	Cost
1+2a	\$ 236,814,776

Prioritizing health zones within category 2a

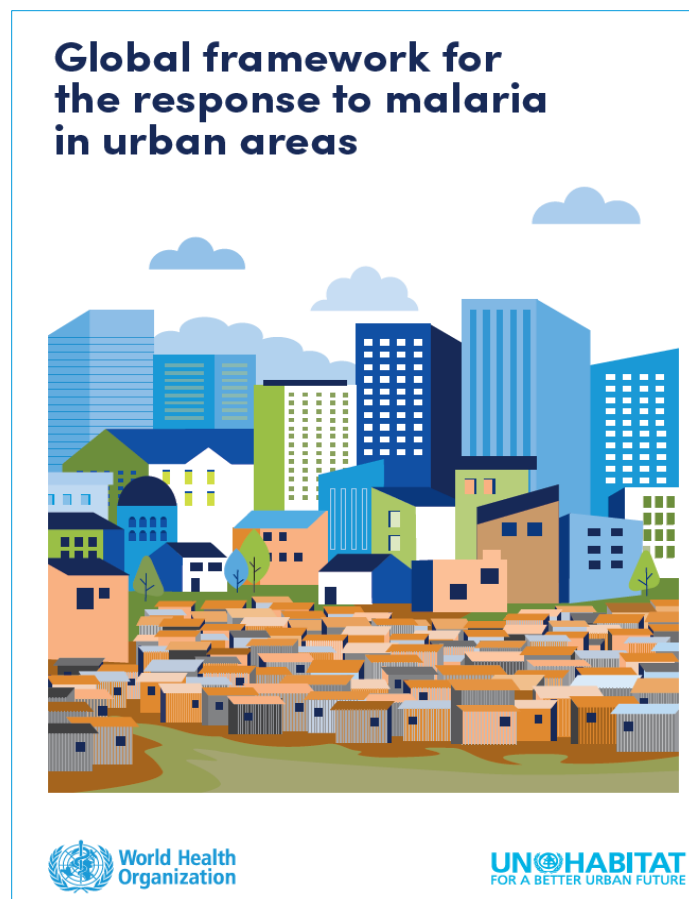
- Mathematical modeling was used to estimate the number of cases expected in priority 2a areas if mass campaigns are successfully implemented vs if they aren't.



Additional malaria cases per 1,000 per year due to stopping mass LLIN campaigns

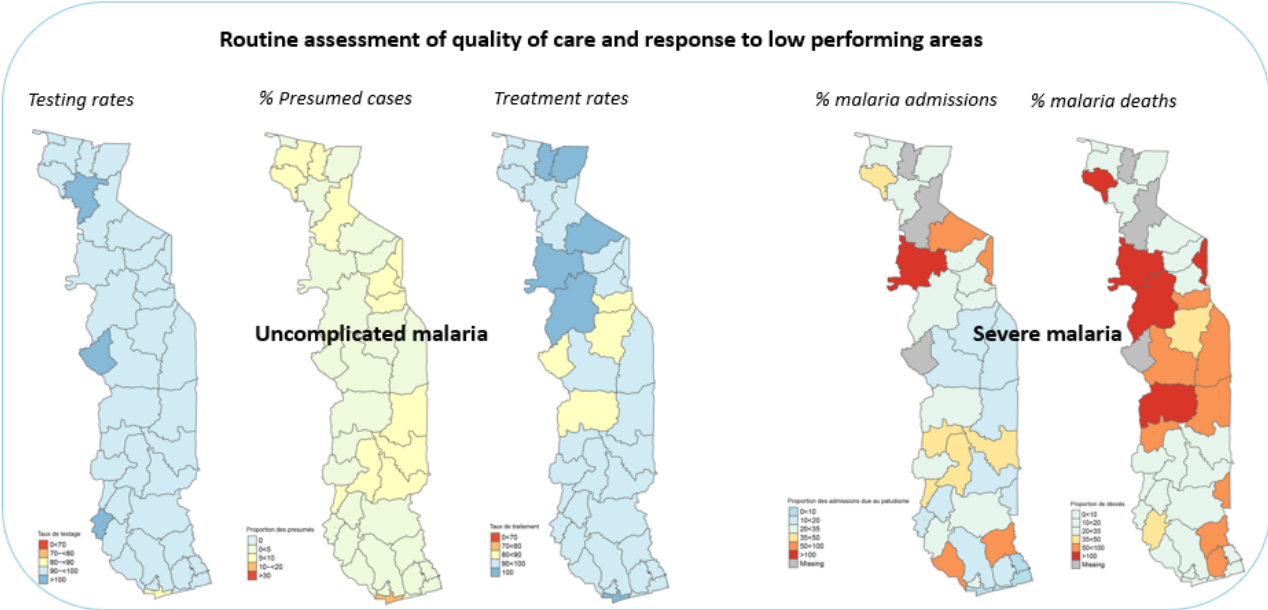
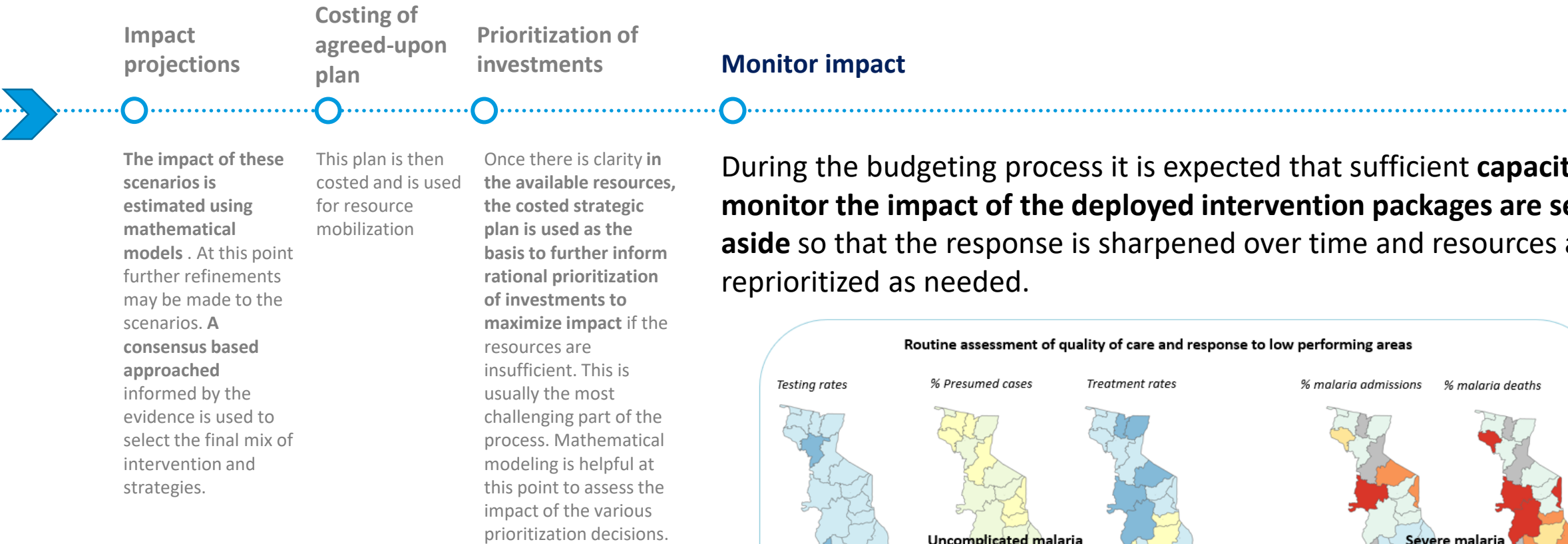


Microplanning the malaria response in urban areas



RURAL	URBAN
Transmission is mainly due to natural ecology, although some human activities (e.g. mining) may lead to increased risk	Transmission is influenced considerably by environmental modifications, and prevalence and incidence are influenced by human population movement
Transmission is generalized in most moderate- and high-transmission settings, but focal in low-transmission and elimination settings	Transmission is mostly focal – often higher in peri-urban areas and informal settlements – with a few areas accounting for most local infections
In moderate- and high-transmission settings, most older children and adults have immunity	Overall population immunity is low
Most infections are locally acquired	A large proportion of infections may be linked to travel to and from rural areas with higher transmission
The public health sector is often the main source of care for fevers	The private health sector is a major source of care for fevers, especially in sub-Saharan Africa
High acceptability of IRS and ITNs, and use of ITNs	Moderate or low acceptability of IRS and ITNs, and use of ITNs in some settings
Most housing types allow high levels of indoor mosquito biting	Many housing types reduce indoor biting, except in poor-quality housing in low-income areas
Aquatic habitats of malaria mosquitoes are often large and plentiful (e.g. flooded grasslands, drainage channels, large pools)	Aquatic habitats are more diverse (e.g. polluted pools, flooded fields, overhead tanks, stagnant pools, other exposed water features)

How?



Principles

*‘Priority-setting determines **the strategic directions of the national health plan**. Led by citizens who are the principals and decision-makers, priority-setting is a shared responsibility between the ministry of health (MoH) and the entire health stakeholder community.’ (WHO definition)*

Ownership

Countries set their own strategies for the response to malaria, provide strong leadership responsible for strengthening their institution and for providing transparency in the investments.

Evidence-informed

The choice of interventions and strategies should be underpinned by strong evidence of their effectiveness within a given context.

Alignment

External donor support aligns behind these plans and prioritizes the use of local delivery systems

Harmonization

Globally, donors coordinate, simplify procedures and share information to avoid duplication in the malaria response.

Invest for results

Countries and donors agree to focus on real and measurable impact on development and invest in local systems that collect the required information.

Mutual accountability

Measuring impact also requires that all stakeholders are accountable for results.

Capacity development

To build the ability of countries to manage their own future, donors should support countries capacities in the development of sound strategic and operational plans, delivery systems and surveillance, monitoring and evaluation processes.

Acknowledgements

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Thank you

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