



# Malaria

# Agenda

- Overview
- Malaria burden and Country Situation
- Intensification Plans and Acceleration Strategies
- WHO and partner response
- Malaria outbreak situation
- Role and responsibility of partners in response





## About Malaria

**Malaria** is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is mostly found in tropical countries. It is preventable and curable.

The infection is caused by a parasite and does not spread from person to person.

Symptoms can be mild or life-threatening. Mild symptoms are fever, chills and headache. Severe symptoms include fatigue, confusion, seizures, and difficulty breathing.

- **Malaria is caused by** the protozoan parasite Plasmodium, There are four human malaria parasite species – *P. falciparum*, *P. vivax*, *P. malariae* and *P. ovale*. Of the non-human malaria parasite species, *P. knowlesi* has recently been reported to infect humans in South-East Asia with increasing frequency, but there is no evidence so far of human-to-human transmission.
- **Malaria is transmitted by** Anopheles mosquitoes, which usually bite between sunset and sunrise. Of the human malaria parasite species, *P. falciparum* and *P. vivax* pose the greatest threat.
- *P. falciparum* remains the most dangerous and is responsible for the majority of malaria-related deaths. Outside sub-Saharan Africa, *P. vivax* malaria accounts for about half of malaria cases and predominates in countries that are prime candidates for elimination.

# Confirmed Malaria Case

- *Malaria case* (or infection) in which the parasite has been detected in a diagnostic test, i.e. microscopy, a rapid diagnostic test or a molecular diagnostic test

# Overview (Who are at risk?)

Malaria disproportionately affects those in situations of greatest poverty and vulnerability

- Refugees, migrants and internally displaced people are at higher risk of malaria, due to limited access to health services, and financial and geographical barriers.
  - Migrant populations such as miners, agriculture workers, labourers and soldiers are particularly susceptible to malaria.
  - Indigenous Peoples are at high risk of malaria due to the remote locations - far from health services - and conditions in which they often live.
- Pregnant women living in poor, rural areas are disproportionately impacted by malaria.
  - Pregnancy reduces women's immunity to malaria, making them more susceptible to infection and increasing their risk of severe disease and death.
  - Malaria infection in pregnancy also carries substantial risks for the fetus and newborn child – including low birthweight, a strong risk factor for neonatal and childhood mortality.

# Overview (What are the symptoms of malaria?)

- Symptoms usually appear 10–15 days after the infective mosquito bite
- Symptoms can be mild or life-threatening.
- Mild symptoms are fever, chills and headache.
- Severe symptoms include fatigue, confusion, seizures, and difficulty breathing.
- Infants, children under 5 years, pregnant women, non-immune migrants, mobile populations, travelers and people with HIV or AIDS are at higher risk of severe infection.

# Overview (How malaria can be treated?)

Malaria is a serious infection and always requires treatment with medicine.

- Receive early diagnosis with rapid diagnostic tests (RDTs) or microscopic examination
- Take appropriate treatment with quality assured antimalarial medicines -
  - Artemisinin-based combination therapy or chloroquine depend on type of species.
- Ensure to take the full course of treatment including antirepalse therapy for Plasmodium vivax.



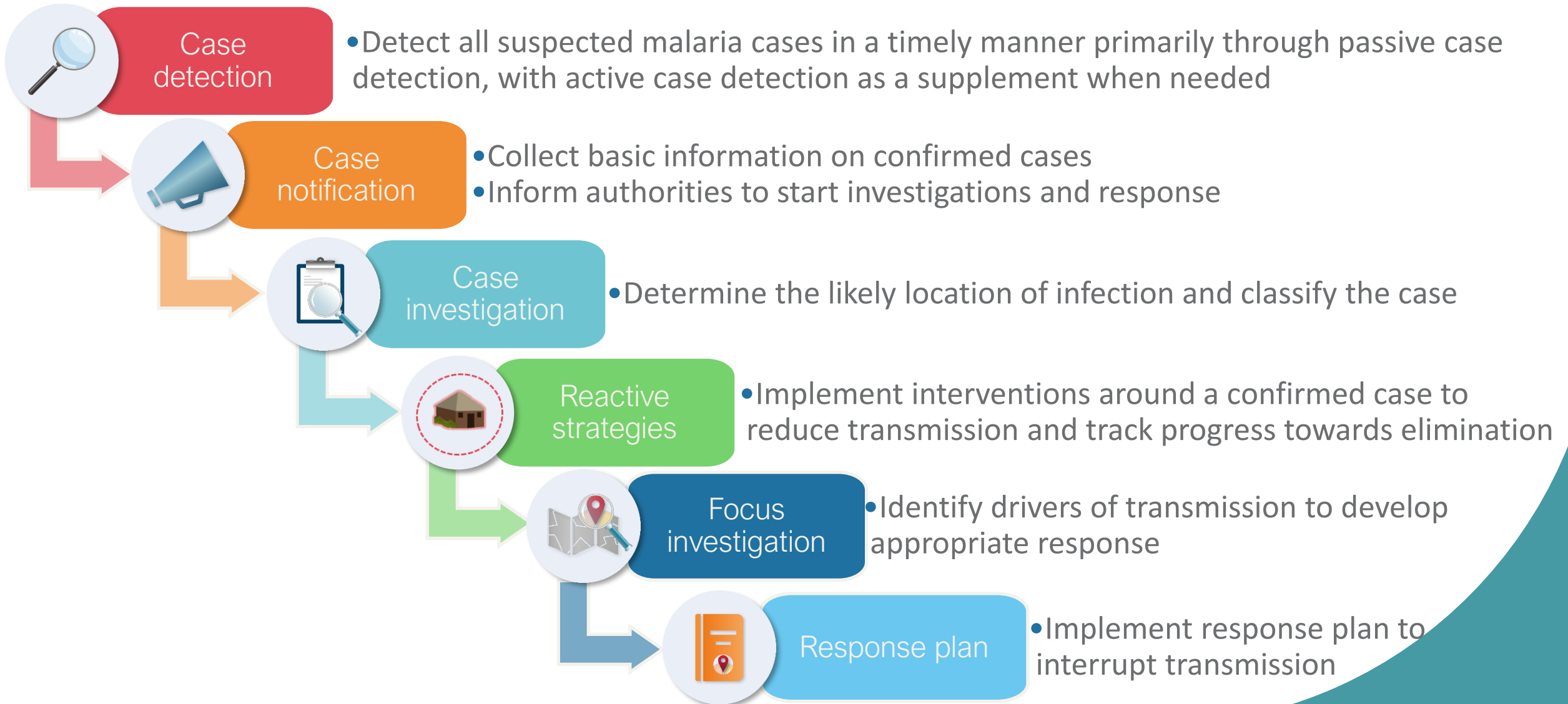
# Overview (Vector control?)

Vector control is a vital component of malaria control and elimination strategies as it is highly effective in preventing infection and reducing disease transmission.

The 2 core interventions are-

- Insecticide-treated nets (ITNs) and
- Indoor residual spraying (IRS)

# Procedures in Areas Approaching Elimination







# Malaria Situation

# Global burden

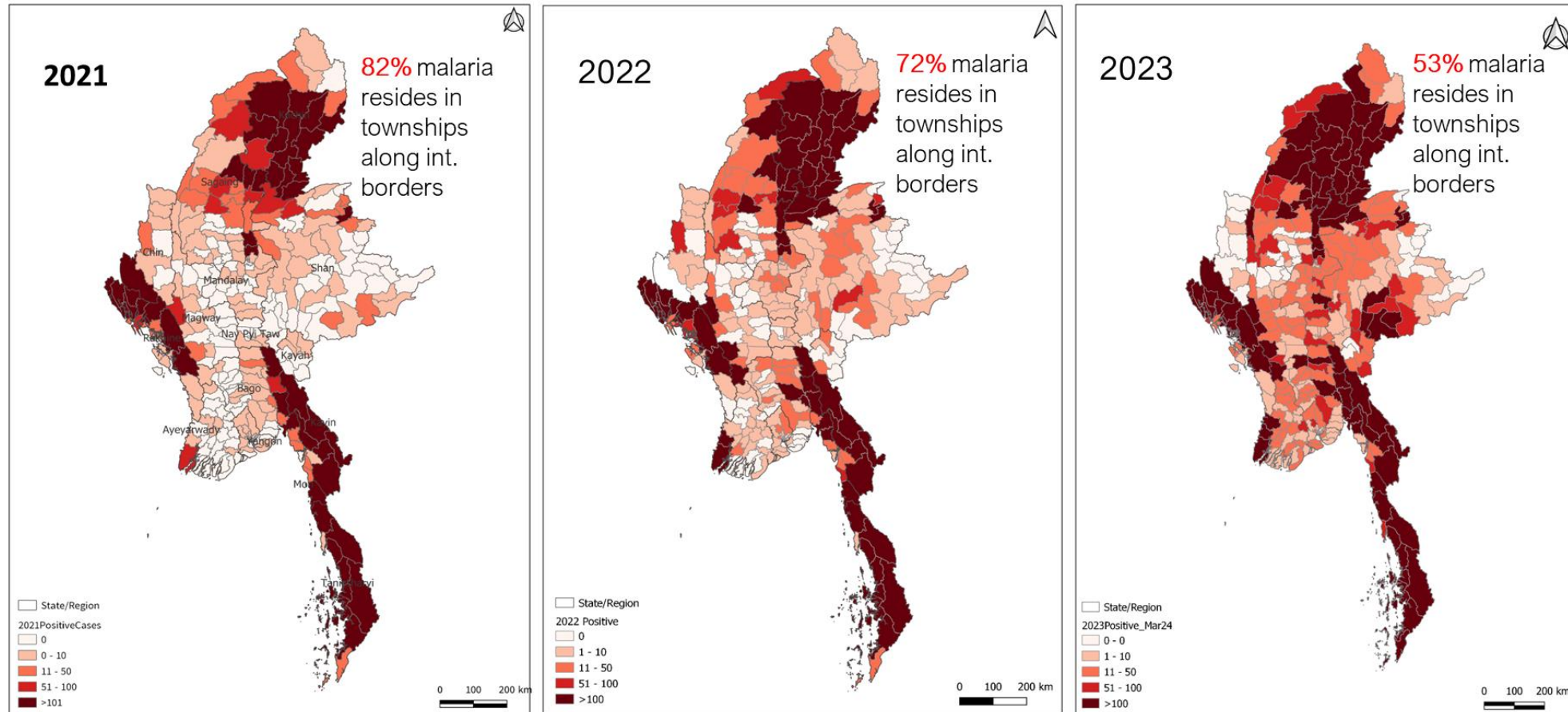
- In 2022, there were an estimated 249 million malaria cases and 608 000 malaria deaths in 85 countries.
- The WHO African Region contributes 94% of malaria cases (233 million) and 95% (580 000) of malaria deaths.
- Children under 5 in that region accounted for about 80% of all malaria deaths.

# Regional(SEAR)

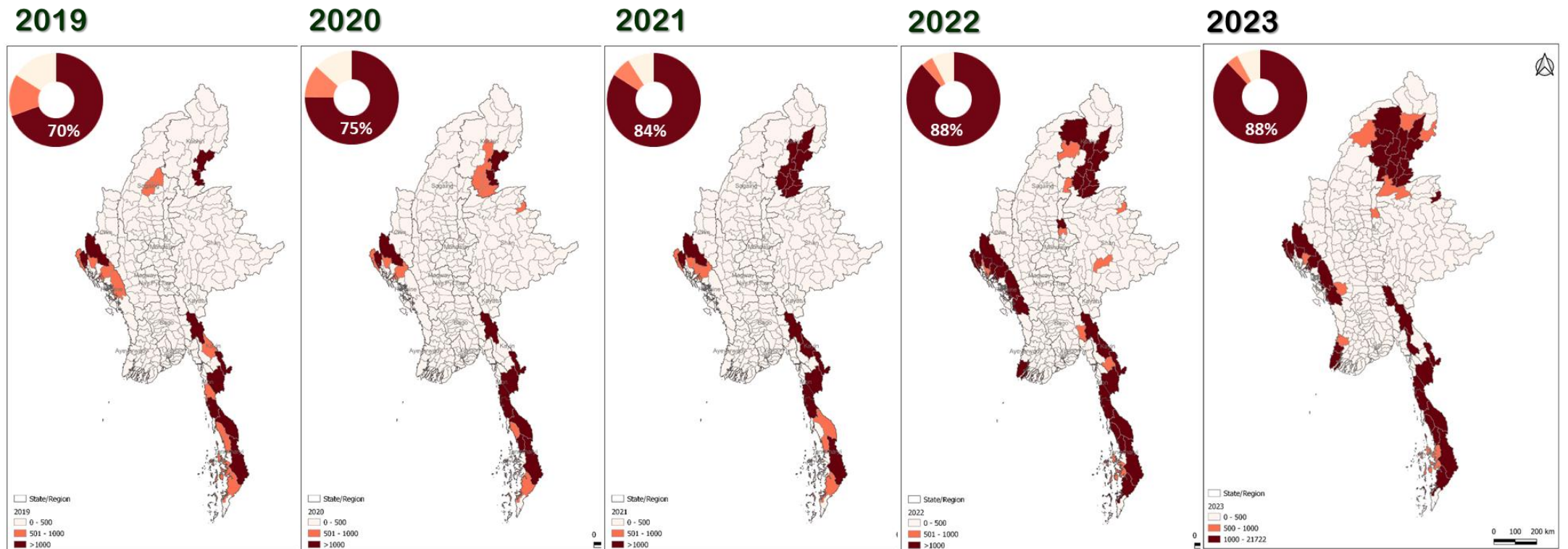
- Malaria is endemic in nine of the WHO South-East Asia Region's 11 countries, accounting for 33% of the estimated burden of malaria outside the African Region.
- In 2022, the region had 5.2 million estimated cases and 8053 estimated deaths



# Malaria Case distribution (2021-2023)



# High malaria burden townships in Myanmar



Number of township with cases more than 1000

10

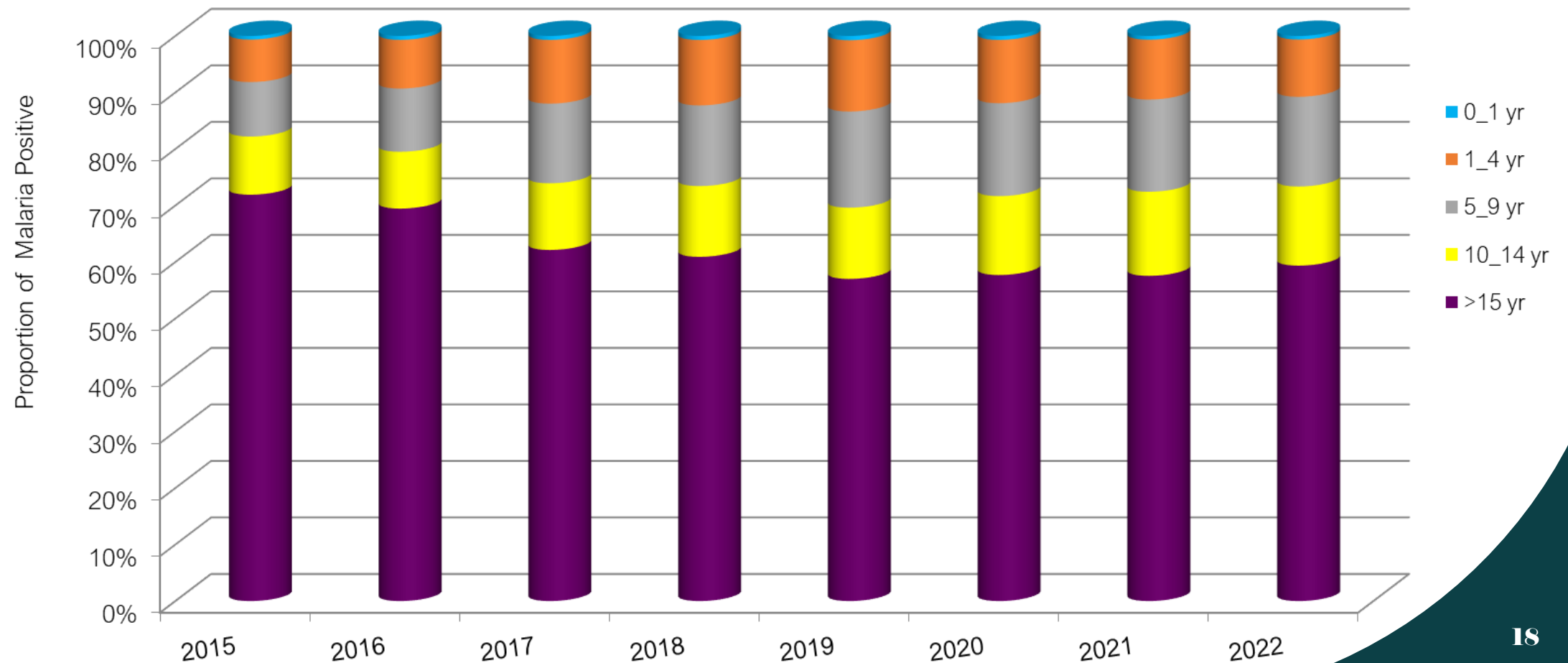
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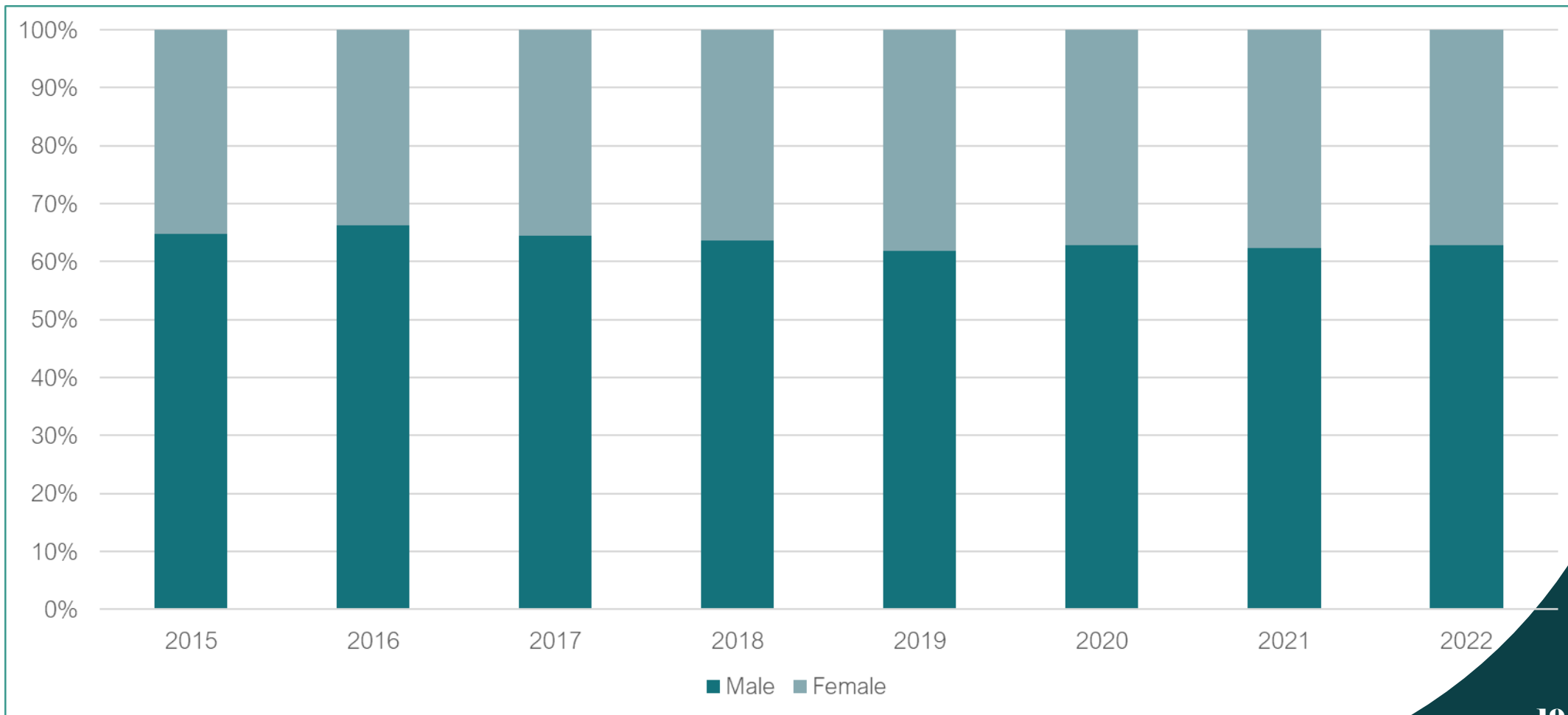
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# Proportion of Confirmed Malaria Cases by Age Group



# Proportion of Confirmed Malaria Cases by Gender



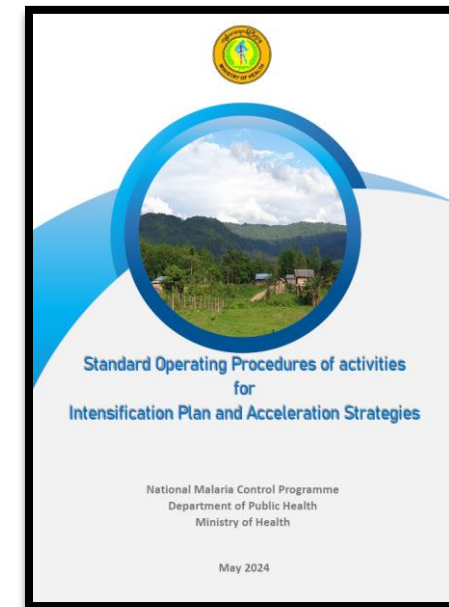
# **Intensification Plans and Acceleration**

## **Strategies by different stratum**



# Planned activities

- Taking MoH approval on SOP for intensification and acceleration strategies
- Drugs for accelerating strategies (Pyramax) arrived.
- It is challenging to implement accelerating strategies during current situation
- >150 townships have updated the stratum of villages.



Stratum	Description
A	Active foci with high transmission
B	Active foci with low transmission
C	Residual non active foci
D	Clear foci
E	Non- receptive area

# Planned Activity by stratum

		A	B	C	D	E
Intensification Plan	PCD					
	ACD					
	Active fever screening					
	Pv radical cure - DOT, adherence					
	LLIN			for risk travelers		
	LLIHNS					
	Routine IRS					
	Reactive IRS					
	CE/IEC/BCC					
	CIFIR					
Acceleration strategies	MDA for Pf burden reduction					
	TDA for Pf burden reduction among high-risk at-risk pop					
	IPTf for at risk pop					
	Active Fever Screening	Weekly		2 weekly		
	Reactive IRS					
	Reactive case detection and treatment around index case					

# WHO and partner response

- To reach the targets of the [\*Global technical strategy for malaria 2016-2030\*](#), countries must apply equity-oriented, gender-responsive and human-rights-based approaches.
- The strategy sets ambitious targets for 2030, compared to a 2015 baseline:
  - Reduce case incidence and mortality rates by at least 90%
  - Eliminate malaria in at least 35 countries
  - Prevent the re-establishment of malaria in all countries that are malaria-free



# Key Players

Key players include District/Township BHS, NMCP staff, related implementing partners, the involvement of an administrative body, the private sector, and the community sector to achieve elimination.

- Public
- Community
- Private

# Malaria outbreak

- No universal definition for a malaria epidemic.

*“A malaria epidemic is defined as a sharp increase in the incidence of malaria in populations in whom the disease is rare, or a seasonal increase in areas of low-to-moderate transmission over and above the normal pattern”*

*WHO Surveillance, Monitoring and Evaluation Manual*

- **Epidemics** could be defined when the *malaria caseload exceeds the usual capacity of the existing health care facilities to handle them*. (definition in relation to workload of health services)
- *Epidemics generating a small number of cases are usually called **outbreaks***
- An increase in morbidity( cases) clearly beyond what is normal for that area.



## Malaria Outbreak in Wa Special Region, Mong Hsat Township, Shan East (April-Aug-2000)

An estimated 10,000 people were afflicted in 23 villages with a reported 1066 deaths

*Complex emergencies may lead to epidemics when transmission is exacerbated by natural disasters and conflicts that lead to breakdown of services and population movement.*





## Causes of epidemic

- Population migration (relocation during Nov-Dec 1999, Mar-Apr 2000)
- Geographical condition (Forest fringe, foothill, valley, and vast areas of forest-cleared cultivated gardens)
- Increase in breeding sources (abundance of slow-running streams and puddles of rainwater in and around the villages)
- High man-vector contact (the temporarily constructed bamboo and thatch type houses are relatively small and crowded)
- Meteorological condition (the weather is rather hot and humid with torrential rain off and on)
- Low immunity status (under-nutrition, ARI, diarrhoea, dysentery)
- Poor health infra structure (Non-availability of full-fledged health personnel and primary health care is virtually non-existent in the villages)
- Vector (*An. minimus* is the responsible vector with high vector density and longevity)
- Parasite (possibility of new strain of malaria parasite)

# Malaria outbreaks in different settings

## In areas with **high transmission**

- Unlikely among local adult population
- After natural disasters, and abnormal climatic conditions such as floods, and cyclones, may cause malaria outbreaks among local people
- Non- immune migrants to endemic areas

# Malaria outbreaks in different settings

## In areas with **low transmission or no recent transmission**

- The rate of parasite infection has been reduced by interventions, but receptivity remains high.
- Outbreak can occur after abnormal climatic conditions
- Reduction in service coverage ,
- Breakdown of the health system, loss of efficacy of interventions or increased parasites importation rates
- Weak surveillance system

# Concept of malaria outbreak investigation and response in elimination setting

- In elimination area, because of marked reduction in case load, malaria outbreak is unlikely.
- Surveillance should be done on individual positive case-based surveillance approach. For each and every positive case, response should be taken according to local situation aiming at reduction and interruption of transmission.
- However, if our surveillance system is fragile and incapable to detect the imported case(s), there may be some outbreaks in elimination area. In such case(s), rapid and effective response is required not to roll back to the endemic malaria situation.
- Areas that are in transition from burden reduction to elimination should have an epidemic preparedness plan and that should be an integral part of a comprehensive national strategic plan.



# Preparedness

Identify the epidemic/outbreak prone villages, townships

Develop the monitoring chart

- Plan for emergency preparedness
- Establish outbreak response team
- Readiness of logistics (drugs, test kit, insecticides, LLINs)
- Training of BHS, response team
- Maintenance of equipment (microscopes, Spray cans,)

# Role of implementing partners

## Suspect outbreak

- Increase number of fever cases with RDT positive
- Increase drug used

## Response

- Inform to the health authority
- All suspected cases (fever) should be tested & treated
- Health Education, LLINs distribution

# Thank you



- WHO- MMR
- Malaria Team

