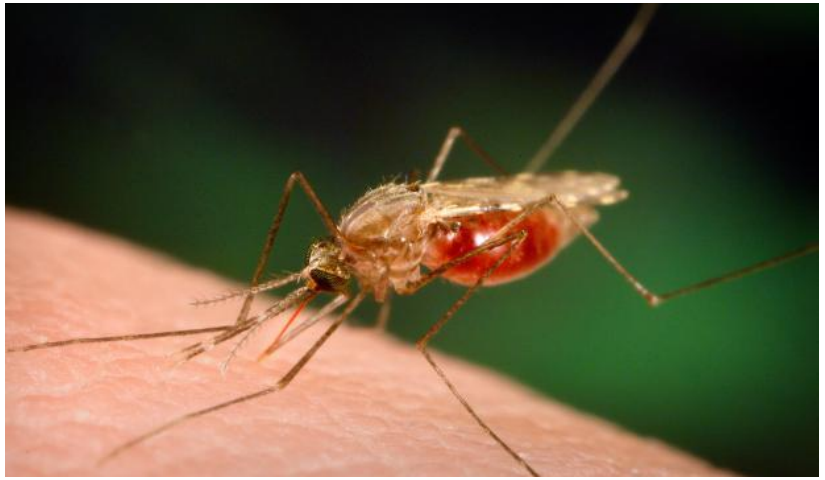


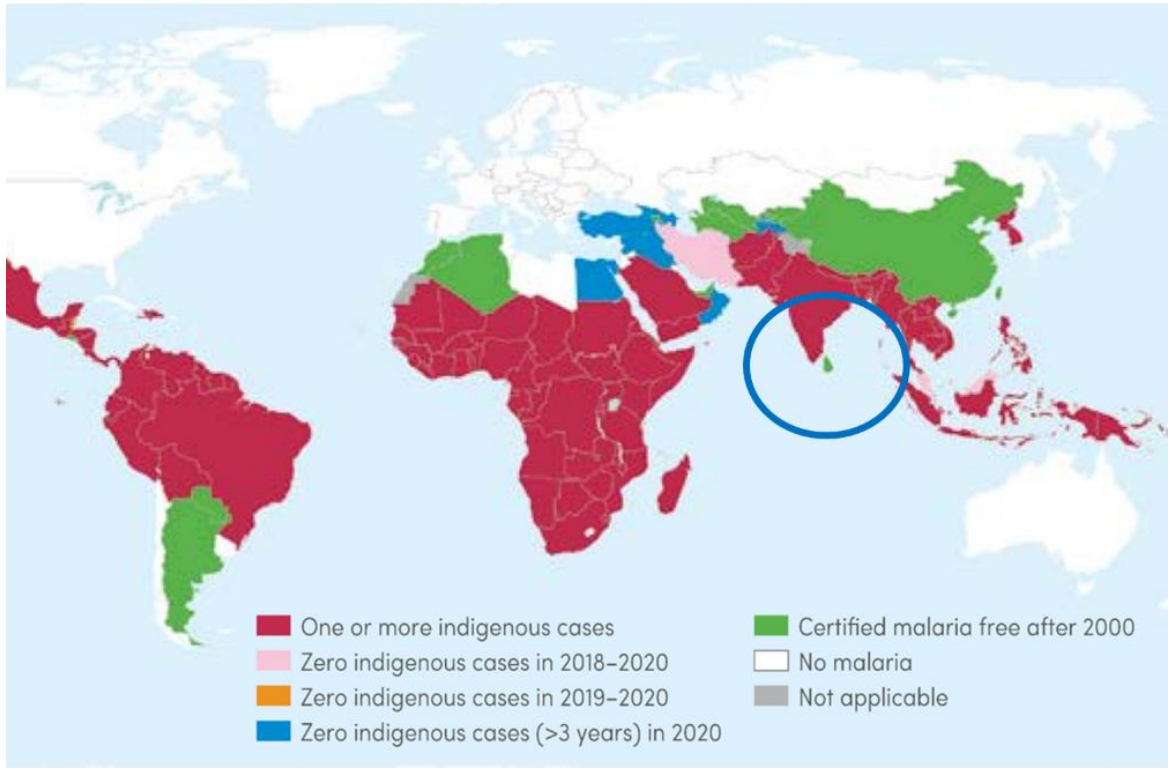
What happens Post-Elimination? Prevention of Re-establishment in Sri Lanka

Dr Champa Aluthweera

Director

Anti Malaria Campaign

Background – Sri Lanka



- Parasites species :-
  - *Plasmodium vivax*
  - *Plasmodium falciparum*
  - *Plasmodium ovale*
  - *Plasmodium malariae*
- Important malaria vectors :–
  - *Anopheles culicifacies (Primary)*
  - *An. Subpictus*
  - *An. Annularis*
  - *An. Vagus*
  - *An. tessellatus*
  - *An. Varuna*
  - *An. stephensi*

(Secondary)

History of organized malaria control and elimination

1911
- Organized malaria control activities commenced with the establishment of the Anti Malaria Campaign in Kurunegala, Sri Lanka

1963
- Sri Lanka achieved near elimination
- Total cases – 17 (Imported cases – 6, local 11)

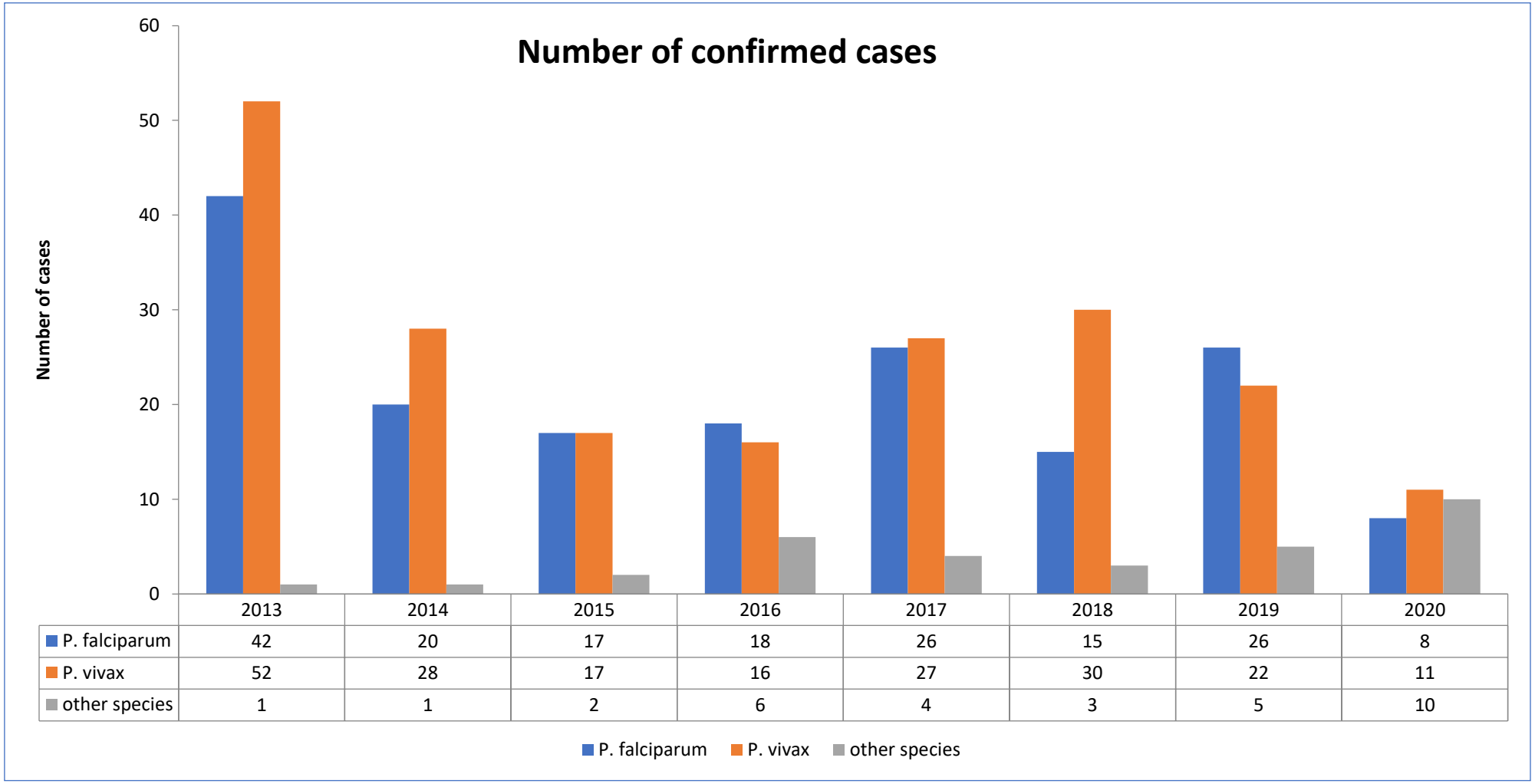
1968
- Epidemics followed. Annual malaria cases exceeded **500,000 cases**

1999
- WHO RBM launched. Renewed efforts to control malaria.. Incidence falls

2008 – 2012
- 647 cases in 2008 & elimination launched. 2012 last indigenous case

2016
WHO certified Sri Lanka as a malaria free country

Imported cases by species



	2013	2014	2015	2016	2017	2018	2019	2020
P. falciparum	42	20	17	18	26	15	26	8
P. vivax	52	28	17	16	27	30	22	11
other species	1	1	2	6	4	3	5	10

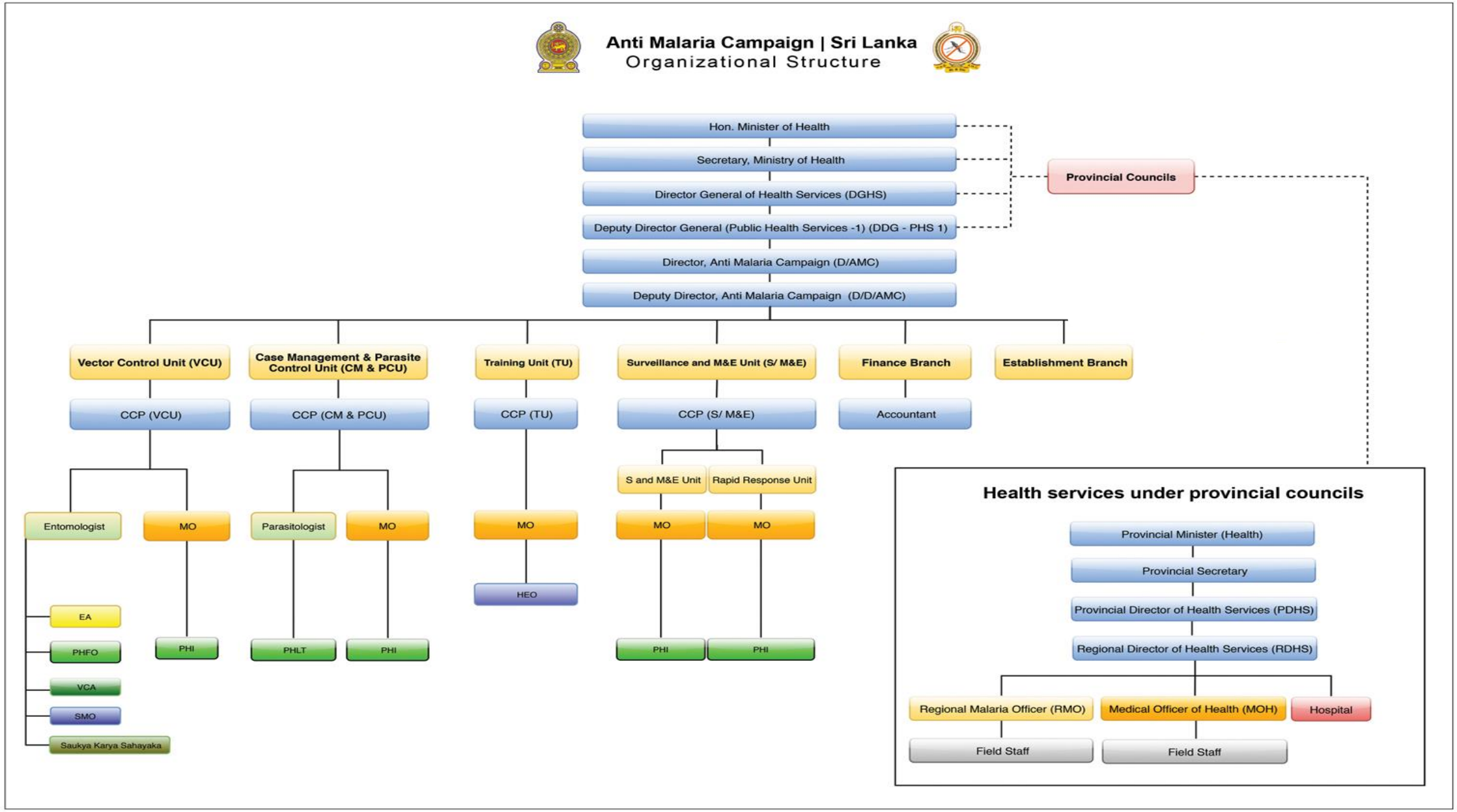
High risk population

1. Security forces personnel returning from UN peace keeping missions
2. Gem traders – eg., visiting Madagascar for gem trading
3. Other businessmen – visiting India
4. Pilgrims – to India, Myanmar
5. Seafarers
6. Re-settled communities – returning from India
7. Migrant workers – from other countries in Indian subcontinent – India, B'desh, Pakistan
8. Illegal / irregular migrants
9. Refugees, asylum seekers from endemic countries
10. Tourists – from endemic countries
11. Students – from endemic countries

Strategies or mechanisms targeting interventions for high risk group(s):

Risk Groups	Strategies/mechanisms to target interventions
Security forces personnel returning from UN peace keeping missions	Collaboration with Ministry of Defense - military and police Departments. Monthly meetings, Database of returnees and regular screening
Gem traders	Proactive case detection in villages with resident gem traders
Other businessmen	Chemoprophylaxis
Pilgrims	Collaboration with Ministry of Buddha Sasana to provide chemoprophylaxis
Seafarers	Chemoprophylaxis and reactive case detection
Re-settled communities	Awareness raising campaigns and intermittent screening
Migrant workers **Illegal / irregular migrants**	Operating within the framework of the Migration Health Policy of MoH. Screening of migrant labour groups, Reactive case detection, using community intelligence on their whereabouts, Vector surveillance and control
Refugees, asylum seekers from endemic countries	Collaboration with UNHCR and IOM. AMC is informed of Incoming groups and screening is performed on arrival and kept under surveillance later
Tourists	Collaboration with Airports and Aviation Ministry – Raising awareness of malaria
Students	Reactive screening, and awareness raising.

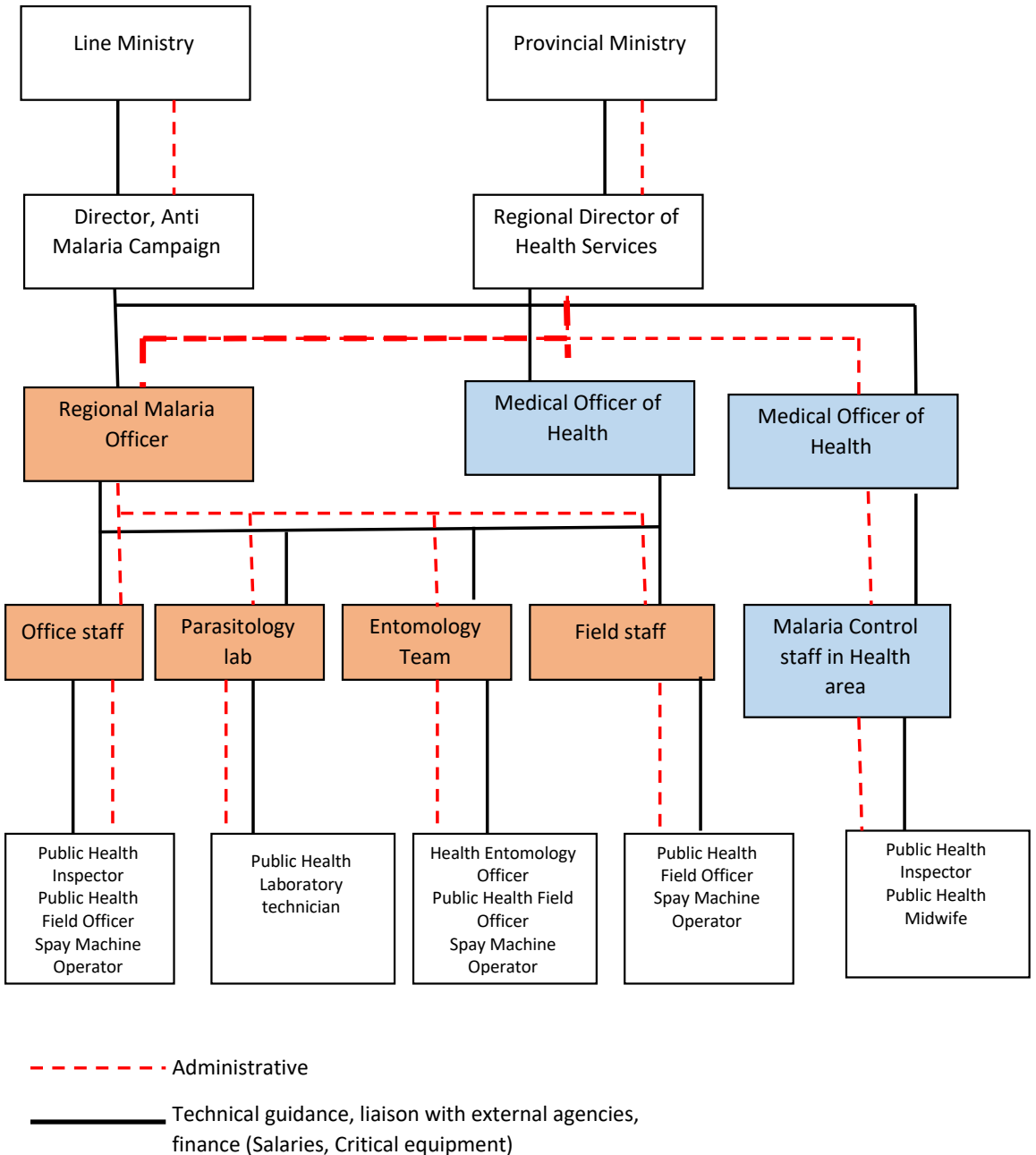
Malaria structure for prevention of re-establishment at national level



Key - CCP: Consultant Community Physician; **DA**:Development Assistance; **DEO**: Data Entry Operator; **HEO**: Health Education Officer; **MA**: Management Assistance; **MO**: Medical officer; **PHFO**: Public Health Field Officer; **PHI**: Public Health Inspector; **PHLT**: Public Health Laboratory Technician; **SMO**: Spray Machine Operator; **VCA**: Vector Control Assistant.

The current structure of malaria programme at the implementation (district) level:

Organisation Structiue- Regional Malaria Office



Surveillance and response

Strategies used to maintain passive case detection

- Awareness raising among Clinicians for reducing diagnosis delay
  - Guidelines and circulars for fever surveillance
  - Frequent messaging using social media platforms with reminders for eliciting H/o travel in fever cases
  - Holding malaria sessions at medical congresses; malaria notices in medical newsletters
  - Letters written to clinicians who had failed to test for malaria in imported cases
- **Trained staff** (lab technicians, field officers) at health institutions
- District malaria teams **vigilant on fevers in localities with foreign workers**
- Periodic malaria **microscopy training for public and private sector laboratory technicians**; **ECAMM certified** malaria microscopists in the country.
- Time from **onset of illness** to **first contact in health system** to **malaria diagnosis monitored in every malaria case**. And data reviewed monthly and annually

Improve effectiveness and efficiency of case detection (proactive and reactive case detection)

- Maintenance of **risk group registers** and screening for malaria (eg. Military, refugees)
- **Ports of entry screening** of some risk groups (military and refugees)
- Obtaining **stakeholder support** – gem traders, Ministry of Defense, shipping companies, private health sector, Dept. of Immigration.
- **Contact tracing and screening** for every case of malaria

Case investigation and response

Investigation and Response to cases

- When a case is detected the Regional malaria officer and Headquarters are informed immediately by phone. It is microscopically confirmed and with the concurrence of the consultant in the ward, treatment is started within two hours. RMO visits the ward and assists the curative staff on treatment. While the case management is going on, case investigation is begun & contact tracing, parasitological and entomological surveillance are started within 24 – 48 hours to prevent the spread of the parasites.
    - Case notification- **Immediately by phone** to RMO & AMC HQ **(24 h)**
    - Case Response- Treatment is begun **within two hours of diagnosis (24 h)**
    - Case investigation
        - Primary parasitological surveillance (reactive case detection- started (**within 24** hours)
        - Entomological surveillance- **within 48 hours**

Entomological surveillance

Entomological surveillance is used

- To monitor receptivity in the country for
  - risk stratification.
  - decision making on vector control
- To monitor susceptibility to insecticides and their bio efficacy.
- There are 17 sentinel sites. Sites may be changed, selection also based on risk of importation

Purpose of Entomological surveillance data

- Sentinel site monitoring – Monitor adult vector densities over time/ density trends
- Proactive spots – monitoring vector occurance, larval density habitat availability, habitat occupancy in selected areas based on risk of importation
- Reactive spots – Monitor all vector aspects specially the occurance of malaria vectors in response to a case of malaria.

Vector control

- There are no temporary workers recruited to implement vector control
- Quality of the vector control quality is checked by Entomologists and Regional Malaria officers with Bioassays and supervision.
- If vector control is no longer implemented, how is the programme prepared to deploy vector control intervention in case of an outbreak?
    - Since vector control is not broadly implemented, it will be conducted in a targeted manner to manage special situations with different degrees of risk.
    - Buffer stocks of insecticides are maintained.
    - Sustaining skills of specific staff categories is a challenge with streamlined vector control, the economic crisis in the country and minimal funding support from external sources after elimination.

Overall challenges and innovations for Prevention of Re-establishment

Financing and human resources-

- Cessation of funding from previous major funding sources (GFATM)
- Country's economic crisis - reduced national budgets

Other challenges

- Presence of recently introduced *An. Stephensi* in 2 districts in the Northern and eastern regions (eliminated from 2 other districts)
- Frequent transfers of health staff especially medical officers

Other innovative strategies and policies

- Monitoring delays in diagnosis and keeping physicians informed
- Outbreak simulation exercise conducted in the field annually
- Continuous evaluation of existing strategies and introducing new ones


THANK
YOU