

# Malaria Program in Papua New Guinea

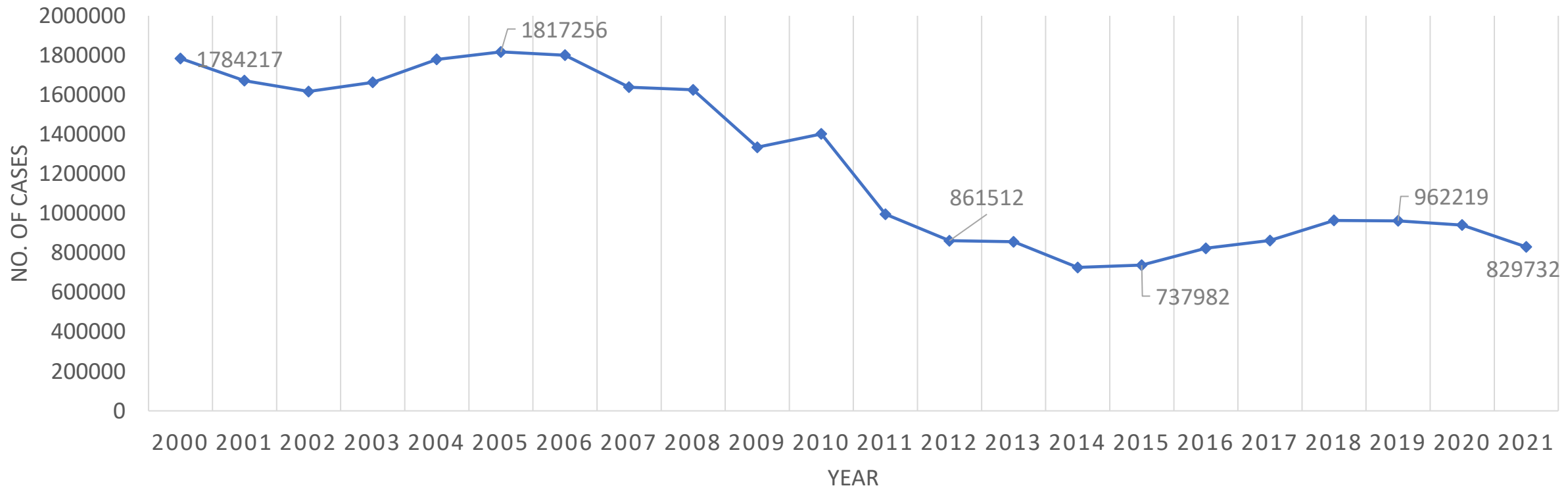
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Malaria and Vector borne diseases

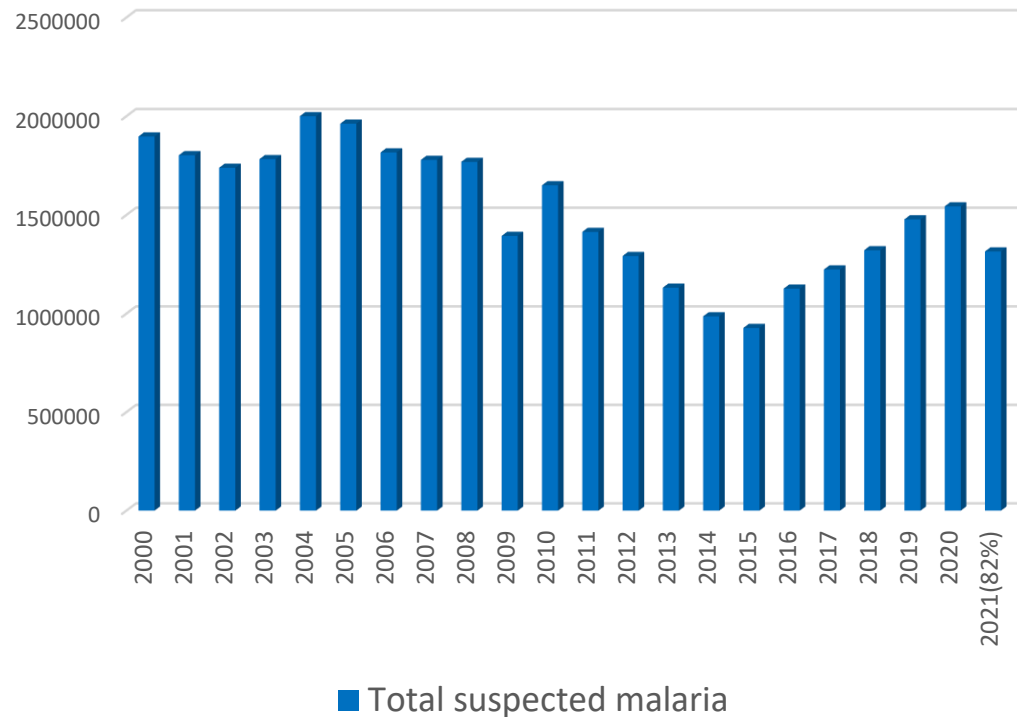
# Malaria Trends in PNG

MALARIA CASES(CLINICAL & CONFIRMED) FROM 2000-2021, NHIS DATA

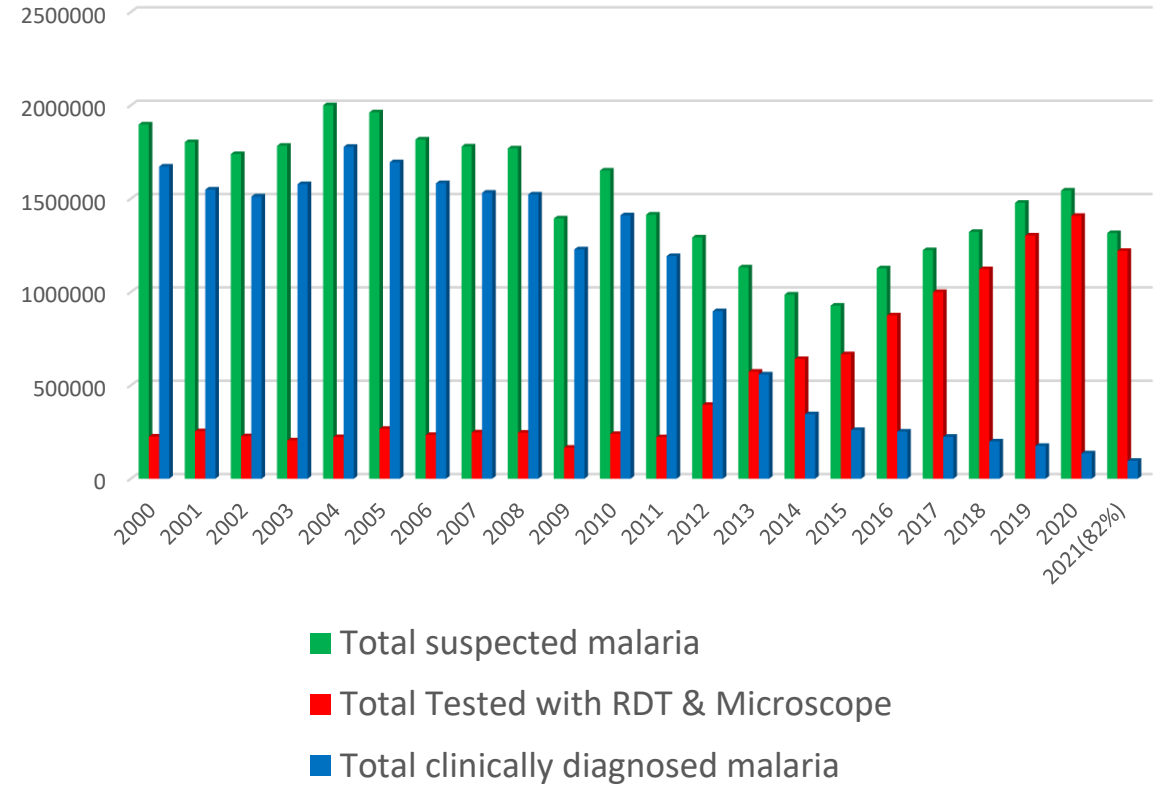


# Malaria cases 2000 - 2021

## Reported suspected malaria 2000-2021

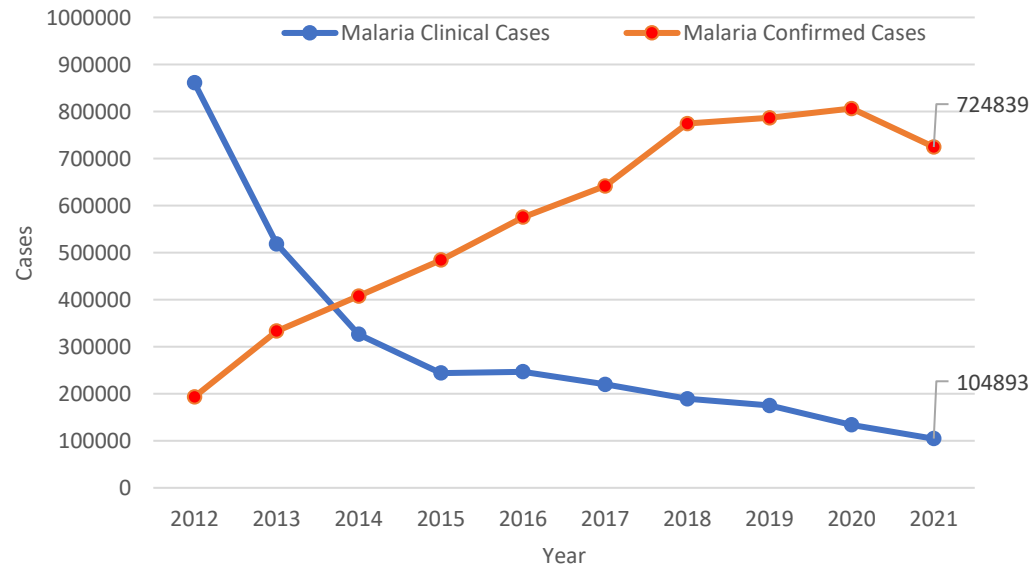


## Suspected, tested and clinically diagnosed malaria (2000-2021)

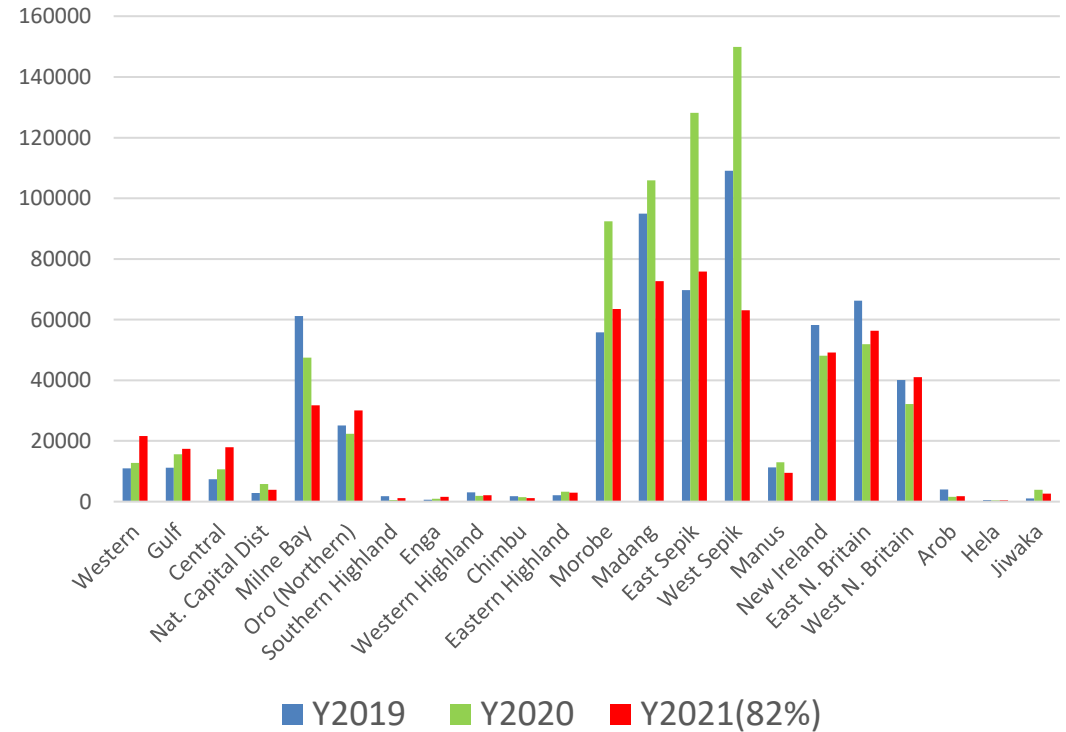


# Total malaria cases and Provincial cases

Malaria Clinical Vs. Confirmed Cases in PNG from 2012-2021 - NHIS Data

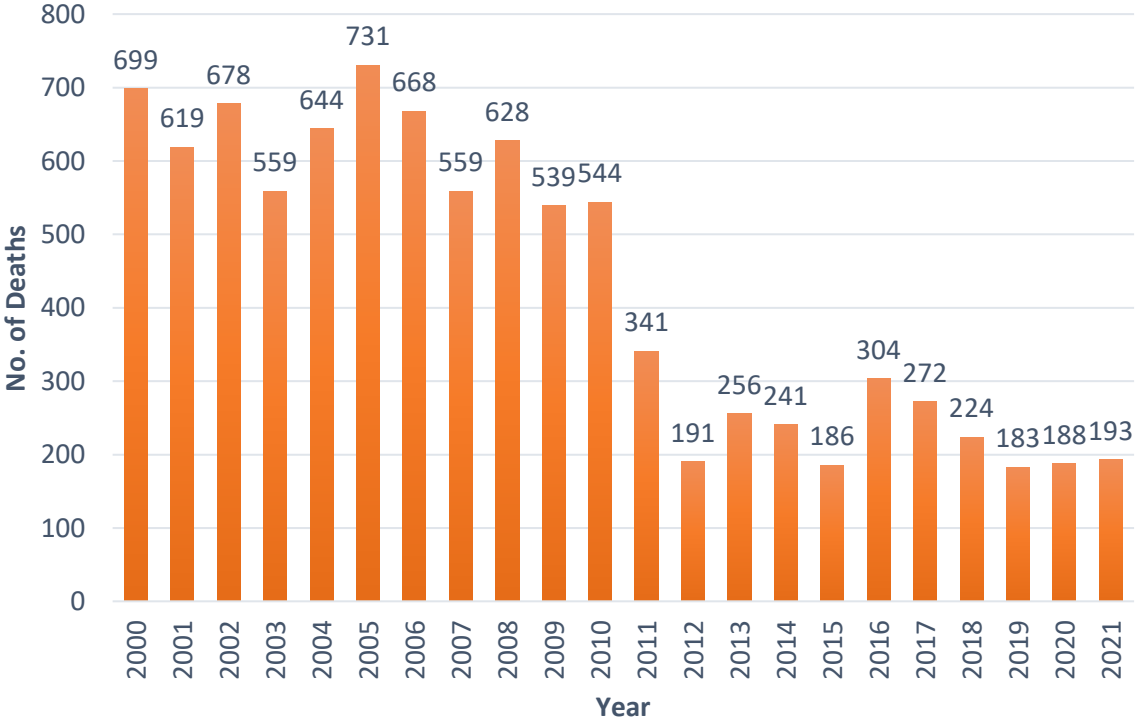


Confirmed Malaria Cases by Province (2019-2021)

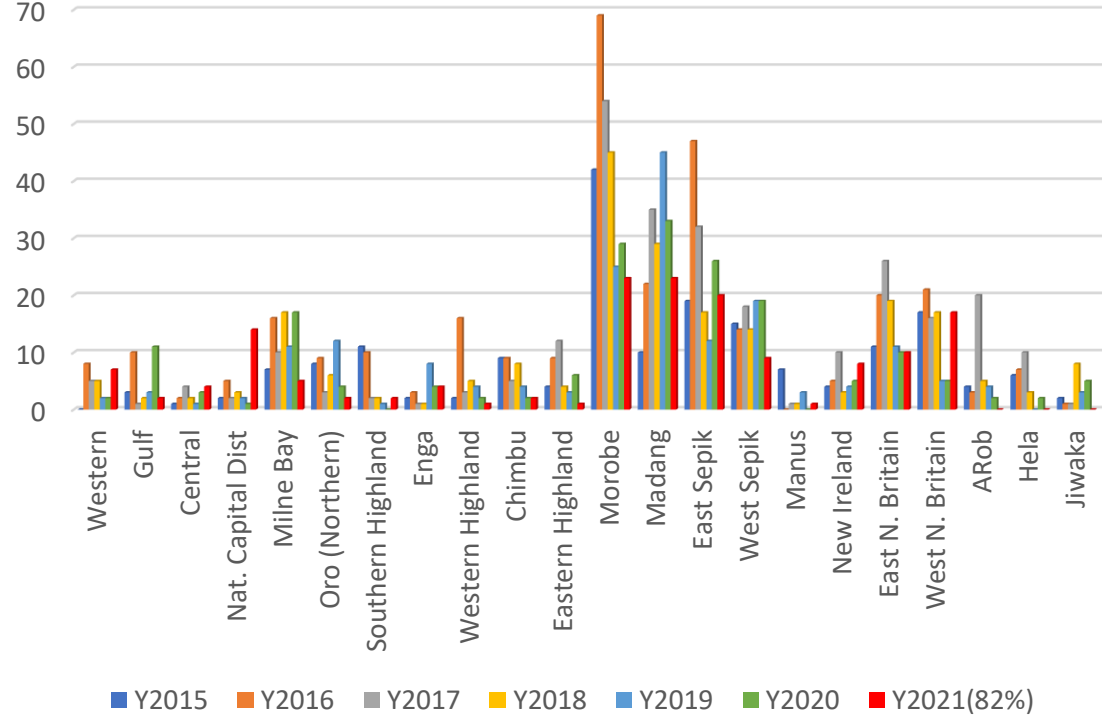


# Malaria Deaths

Malaria Deaths in PNG from 2000 to 2021 (clinical and confirmed) NHIS Data

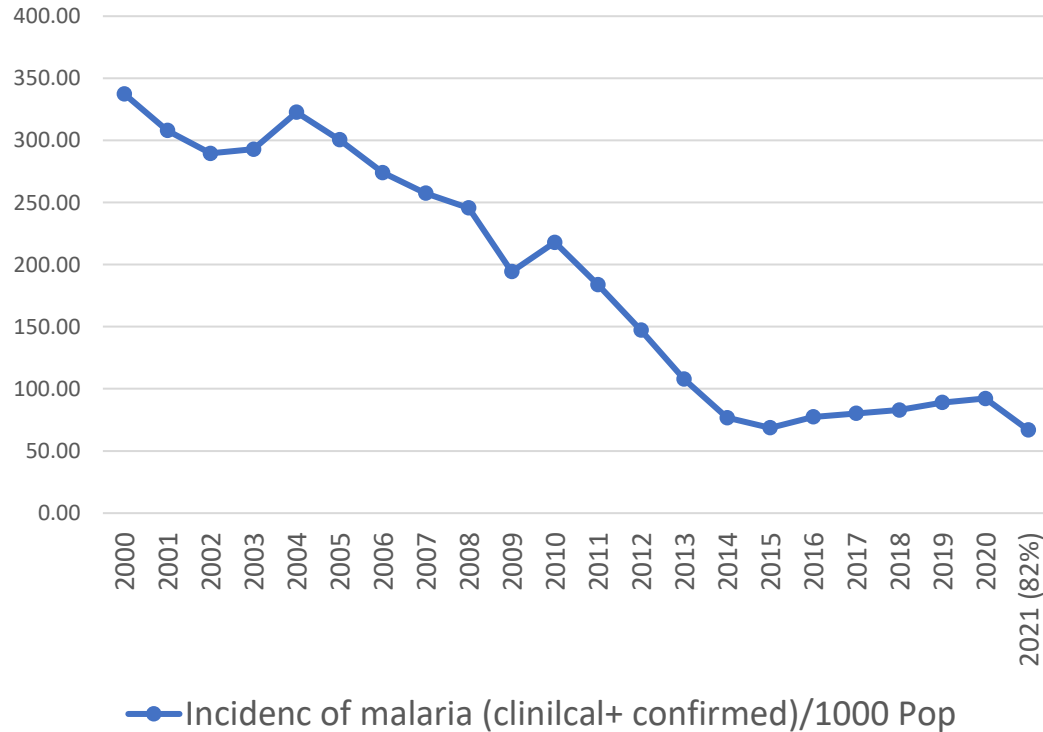


Reported Malaria Deaths by Province (confirmed +Clinically Diagnosed)

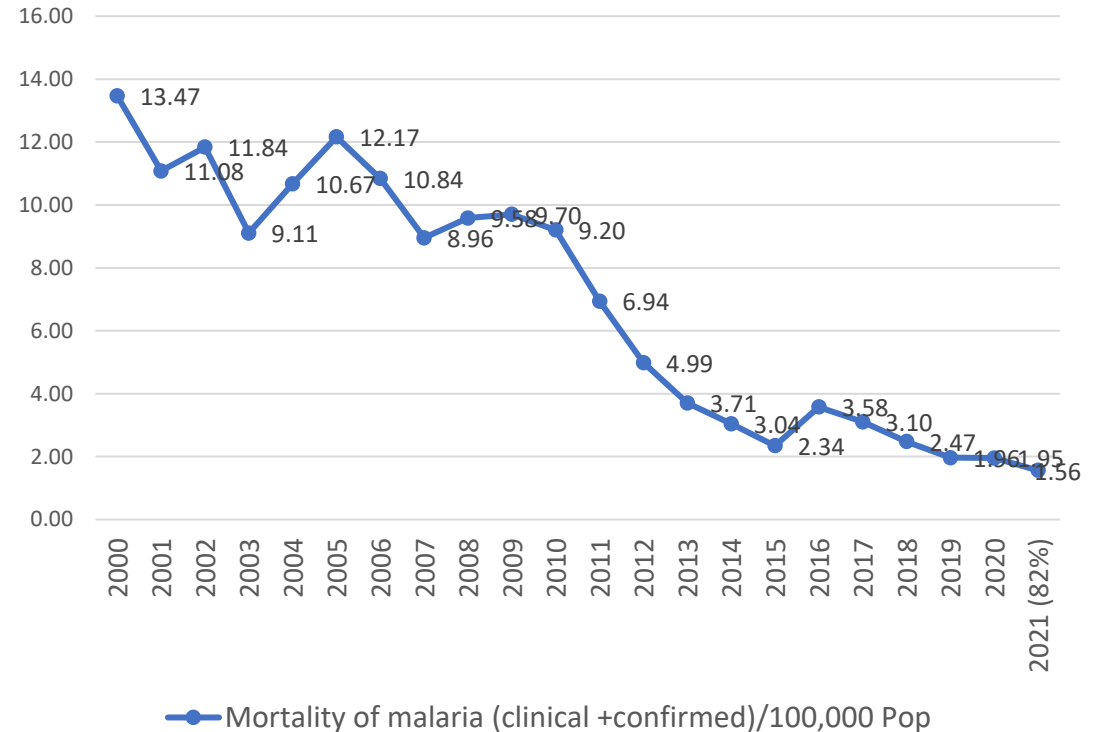


# Malaria incidence and mortality 2000-2021

## Incidence of malaria (clinical +Lab confirmed) /1,000 population (2000-2021)

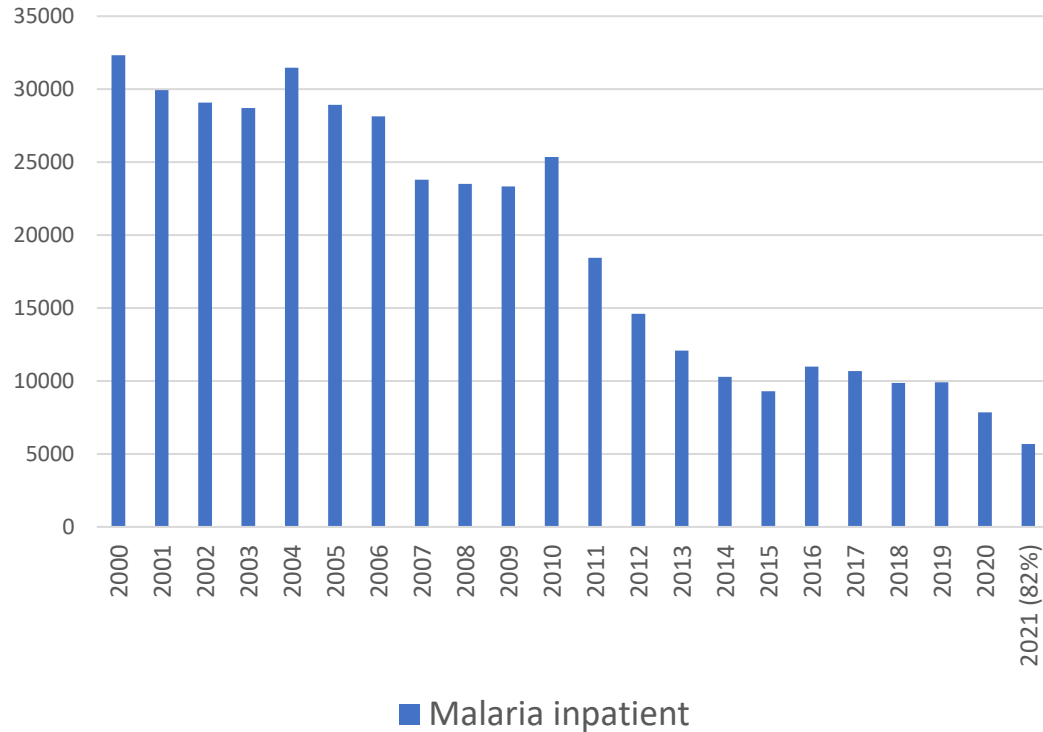


## Malaria mortality (clinical +confirmed cases)/100,000 Pop (2000-2021)

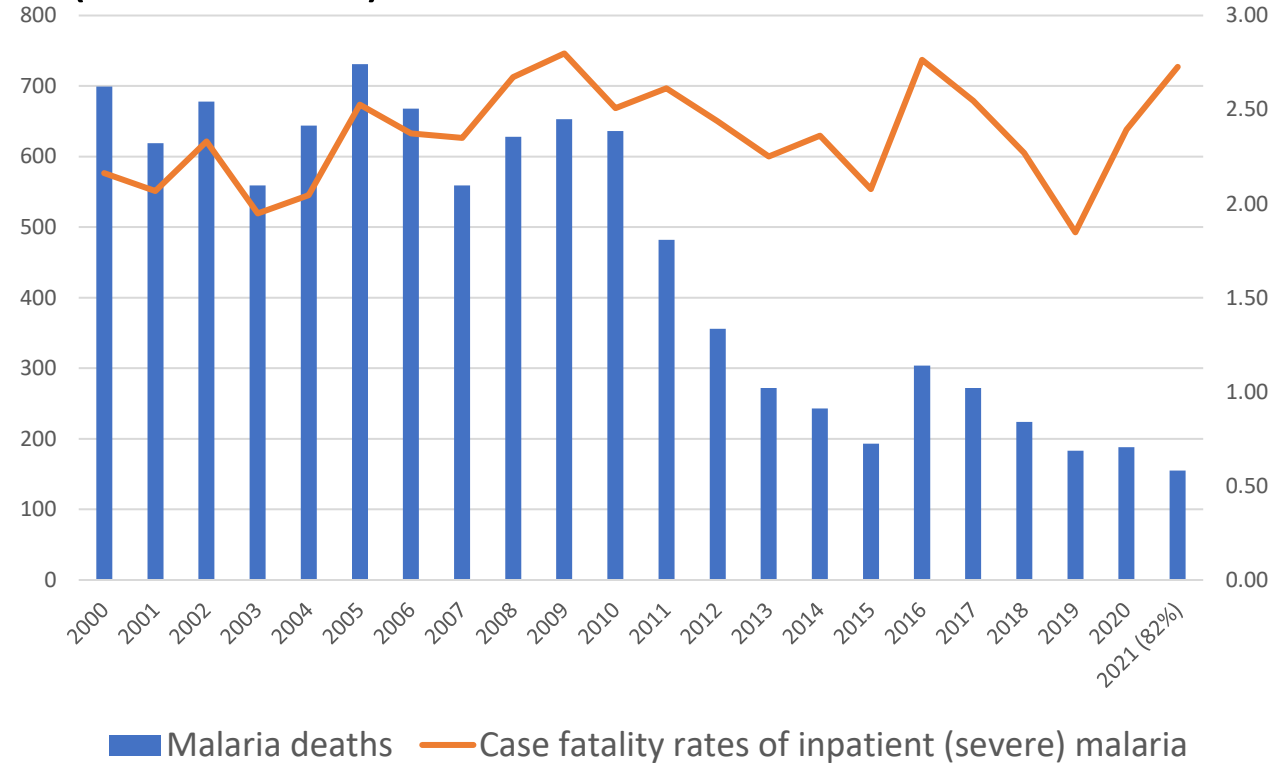


# Malaria Inpatients and Deaths

## Reported malaria inpatients (2000-2021)

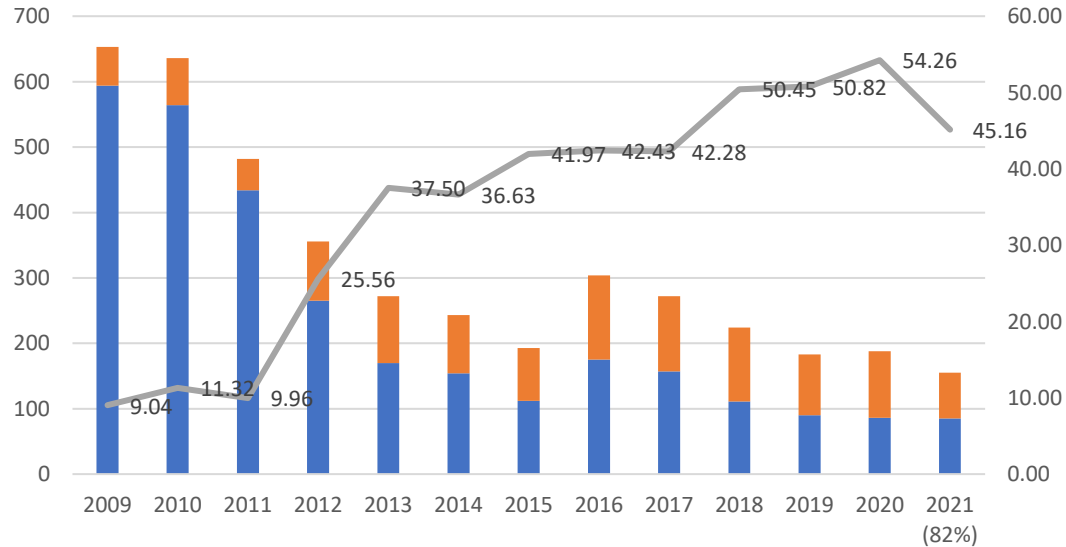


## Reported inpatient malaria deaths (2000-2021)



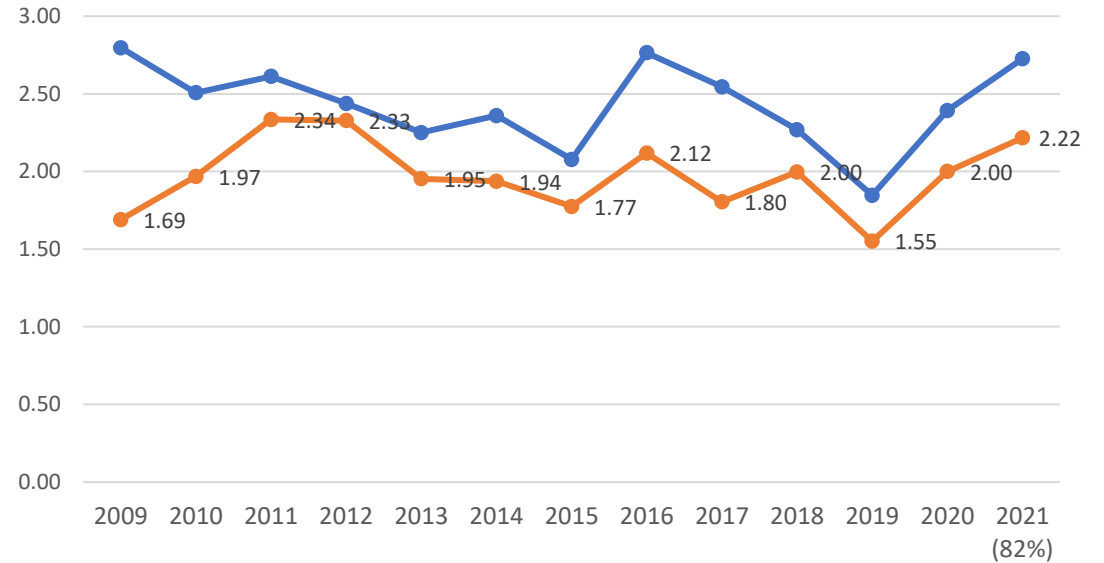
# Malaria Deaths, inpatients and fatality rates

## Clinical and confirmed malaria deaths



- Confirmed malaria\_Deaths
- Clinical malaria\_Deaths
- % Confirmed malaria deaths among all malaria deaths

## Malaria inpatients and case fatality rates

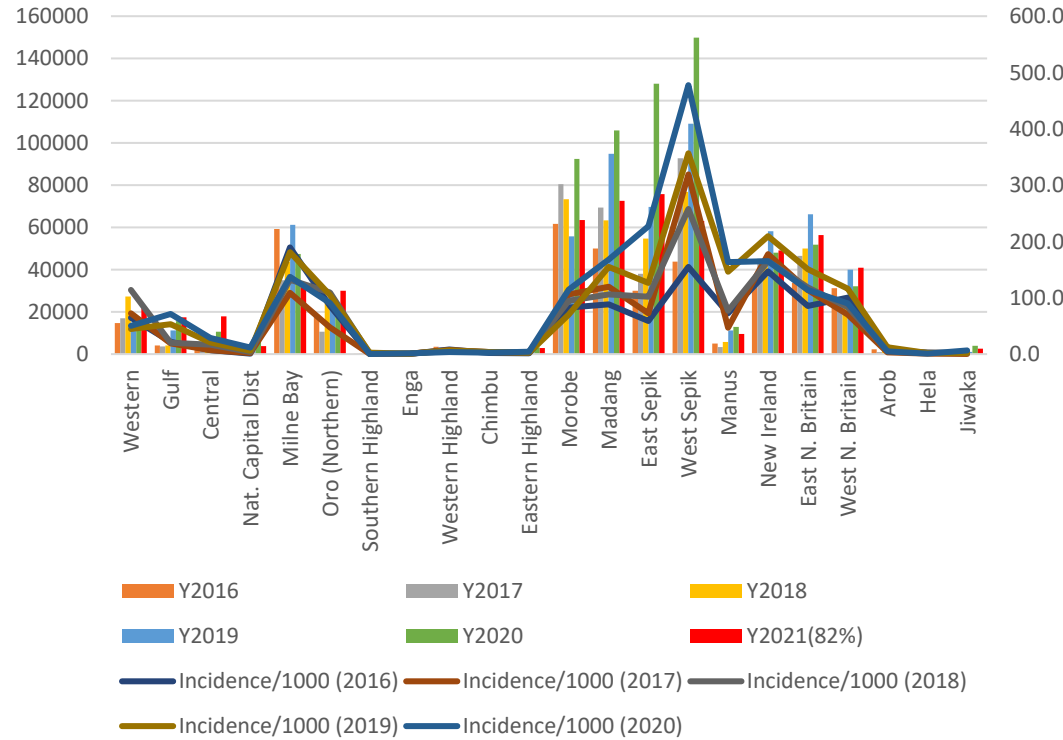


- Case fatality rates of malaria inpatients: (both clinical and confirmed malaria)
- Case fatality rates of malaria inpatients: (confirmed malaria only)

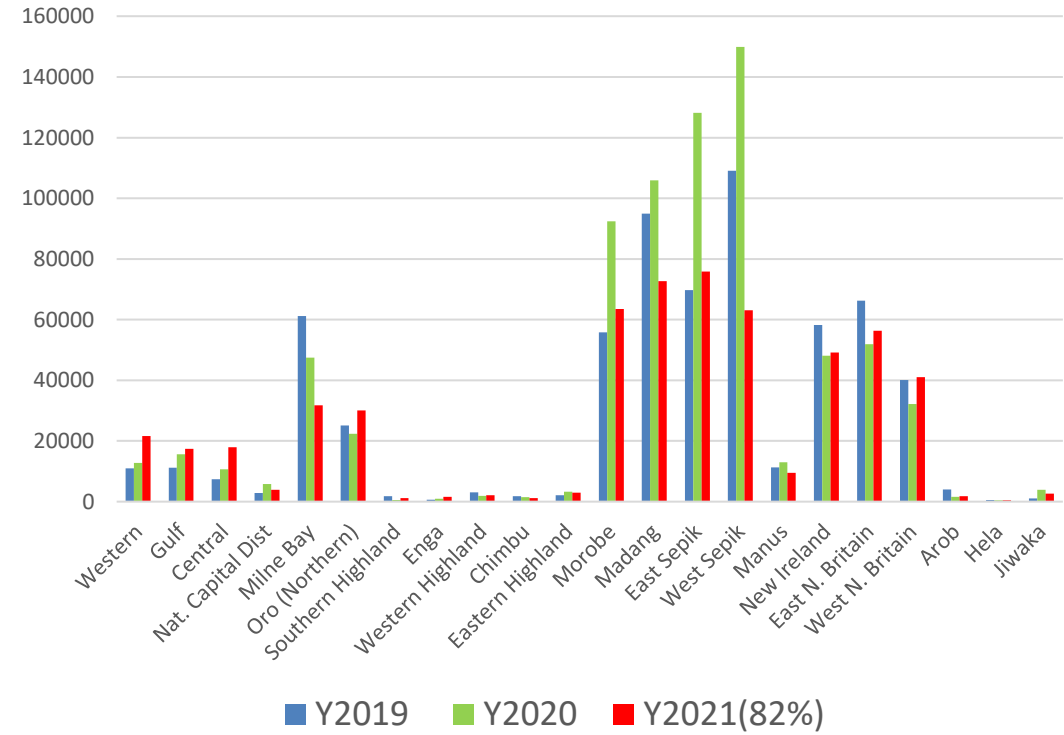


# Malaria cases and incidences by province

## Malaria cases and incidence by province



## Malaria cases by province (2019-2021)



# THE PROGRAM (1)

## **Vision**

A malaria-free Papua New Guinea (PNG) by 2030.

## **Mission**

Improve, transform and provide quality malaria prevention and case management services through innovative approaches supporting primary health care and health system development and good governance at all levels. The malaria control and elimination programme will help to alleviate poverty amongst PNG's most marginalized people.

## **Goals**

- Reduce malaria morbidity by 63 percent by 2025 (i.e. from 66.3 per 1,000 in 2019 to  $\leq 25.8$  per 1,000 in 2025).
- Reduce malaria mortality by 90 percent by 2025 (i.e. from 1.697 per 100,000 [146 deaths] in 2019 to  $\leq 0.165$  per 100,000 [16 deaths] in 2025).
- Eliminate malaria in the Autonomous Region of Bougainville by the end of 2025 and prevent reestablishment of transmission once malaria-free.
- 639,048 confirmed cases in 2019 (NHIS).
- NDoH will introduce subnational certification of elimination from 2028 based on zero indigenous cases for 3 consecutive years.

# The program (2)

## Objectives

- **1. Malaria vector control and personal protection.** Coverage of locally appropriate quality assured strategies for vector control and personal protection optimized nationwide.
- **2. Malaria case management.** Universal access to quality assured early diagnosis and appropriate treatment.
- **3. Behaviour Change Communication.** Community-based support for malaria control and elimination efforts mobilized and utilization of prevention and case management services maximized.
- **4. Surveillance and response.** A strong routine disease surveillance and response system in burden reduction settings and a robust case-based surveillance and response system in elimination and prevention of re-establishment settings.
- **5. Enabling environment.** A strong enabling environment for malaria control and elimination.

# Malaria elimination objectives

## Timelines and Key Targets

	2021	2022	2023	2024	2025	2030
National API (cases/1,000 pop)	≤ 61.7	≤ 55.6	≤ 47.2	≤ 35.4	≤ 24.8	≤ 0.5
National mortality (cases/100,000 pop)	≤ 1.80	≤ 1.41	≤ 0.83	≤ 0.40	≤ 0.20	≤ 0.0

## Target estimations

- Figures for annual parasite incidence (API) and malaria mortality presented in are modelled based on actual reported figures for 2019 and on the goal of ending indigenous transmission during by 2030.

# ACTIVITIES

- Distribution of LLINs
- Management of malaria cases (Test Confirm and Treat)
- Ensuring the availability of ACTs and RDTs
- Improve reporting
- Improving diagnosis of malaria
- Conduct training on malaria treatment
- Therapeutical Efficacy Studies on current treatment
- Conducting national household survey
- Operational research
- Field trials for Indoor Residual Spraying (IRS)
- Insecticide resistance monitoring
- Establishment of HMM in consultation with the PHAs
- Quarterly visits to all health facilities

# GOALS

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# PROGRAM PRIORITIES

- Immediately augment intensive malaria prevention and case management services targeting
  - populations in PNG's most remote and most endemic communities.
  - PNG's most underserved and marginalized populations in urban settlements.
- Support capacity development for staff involved in malaria related activities especially at district and at provincial level nationwide.
- Accelerate the expansion and use of 'smart systems' data and communication systems to improve supply and demand side planning and management of malaria commodities and to strengthen implementation of programme activities.
- Rapidly accelerate burden reduction efforts in the two lowland provinces of Madang and Morobe (key sources of malaria infection that threaten epidemic prone highland provinces).
- Rapidly accelerate burden reduction efforts and progressively roll-out malaria elimination activities in selected provinces/islands embarking on elimination.
- Ensure safe radical cure of *Plasmodium vivax* by all qualified service providers.
- Raise the profile of malaria and increase multisectoral engagement to support malaria control and elimination efforts much more widely.

# TARGETING BY PROVINCE

1. All provinces continue to provide an essential package of vector control and personal protection services and case management services as well as behaviour change communication.
2. Capacity development support for all provinces and districts.
3. Accelerated burden reduction in Madang and Morobe Provinces to protect epidemic prone highland provinces.
4. Phased roll-out of accelerated burden reduction and elimination in selected provinces/islands embarking on elimination.



# 1. MALARIA VECTOR CONTROL AND PERSONAL PROTECTION

- 1.1 Implement rolling three-yearly mass distribution of long-lasting insecticide treated bednets (LLIN) to achieve universal coverage in target areas.
- 1.2 Implement continuous LLIN distribution to maintain universal coverage amongst vulnerable and key risk populations.
- 1.3 Re-introduce high-quality indoor residual spraying (IRS) to rapidly reduce incidence in selected high burden areas and to maintain malaria control in areas where LLIN utilization is low.
- 1.4 Implement supplemental vector control tools and personal protection measures as appropriate.
- 1.5 Support multisectoral involvement in the provision of vector control and personal protection measures.
- 1.6 Implement focal responsive vector control interventions in response to outbreaks in burden reduction settings and confirmed transmission foci in elimination settings.
- Re-introduction dependent on the outcome of trials.

# 2 MALARIA CASE MANAGEMENT

- 2.1 Ensure early and accurate diagnosis.
- Expand and maintain quality assured rapid diagnostic test (RDT)-based diagnostic services.
- Maintain and strengthen quality assured malaria specific microscopy-based diagnostic services down to district level.
- Support the PCR facility at the Central Public Health Laboratory (CPHL).
- Introduce routine G6PD testing to support safe radical treatment for vivax malaria cases.
- Polymerase chain reaction - a method used widely in molecular biology to amplify sections of genetic code from cells.
- Glucose 6 Phosphate Dehydrogenase (G6PD) is a critical 'housekeeping' enzyme in red blood cells that intervenes against oxidative challenge. G6PD deficiency has a slight protective effect against malaria but results in increased susceptibility to haemolysis for patients treated with primaquine and other similar drugs.

# Malaria case management cont..

## **2.2 Ensure effective rational treatment.**

- Provide case management, including the management of severe malaria in public sector health facilities.
- Provide community-based case management for malaria in areas beyond reasonable reach of health facilities.
- Strengthen private sector case management services.
- Provide intermittent preventive treatment (IPTp) for malaria during pregnancy in areas below 1,600 metres.
- Conduct mass drug administration (MDA) in specific circumstances.
- Conduct routine mass screening and treatment (MSAT) for boarding school children.
- 2.3 Address the issue of sub-standard and falsified antimalarials.
- Covering villages, schools and refugee camps.
- MDA may be used to eliminate the parasite reservoir and interrupt transmission at a rapid pace in elimination settings or to rapidly reduce burden in transmission hotspots in higher burden settings, depending on the outcome of operational research.

# 3 BEHAVIOR CHANGE COMMUNICATION (BCC)

3.1 Implement health promotion activities to support the enabling environment for malaria control and elimination, to strengthen knowledge, attitudes and practices amongst populations at risk, and to promote community led engagement.

# 4 SURVEILLANCE AND RESPONSE

- 4.1 Strengthen capacity for epidemiological analysis to support policy-related decision making at national level and data analysis to support decision making for appropriate action at the peripheral level.
- 4.2 Accelerate the expansion and strengthening of the electronic National Health Information System (eNHIS) and the workforce's capacity to utilise it.
- 4.3 Incorporate private sector case reporting into eNHIS.
- 4.4 Update malaria risk stratification every two years.
- 4.5 Expand and strengthen outbreak surveillance and timely response for epidemic prone areas.
- 4.6 Establish case-based surveillance and response for areas targeted for malaria elimination and prevention of parasite re-establishment.
- 4.7 Maintain national level sentinel site surveillance and expand to sub-national level.

# Surveillance and response cont..

- 4.8 Conduct malaria indicator surveys three yearly.
- 4.9 Conduct health facility surveys three yearly.
- 4.10 Conduct mini-prevalence surveys in remote villages in suspected high burden areas to inform the roll-out of community-based case management services as per guidelines.
- 4.11 Conduct periodic school surveys.
- 4.12 Monitor drug resistance through therapeutic efficacy studies and molecular surveillance.
- 4.13 Establish and maintain a system of essential entomological surveillance, including insecticide resistance monitoring.
- 4.14 Conduct operational research to inform national policy.
- 4.15 Conduct annual review of research.

# 5 ENABLING ENVIRONMENT

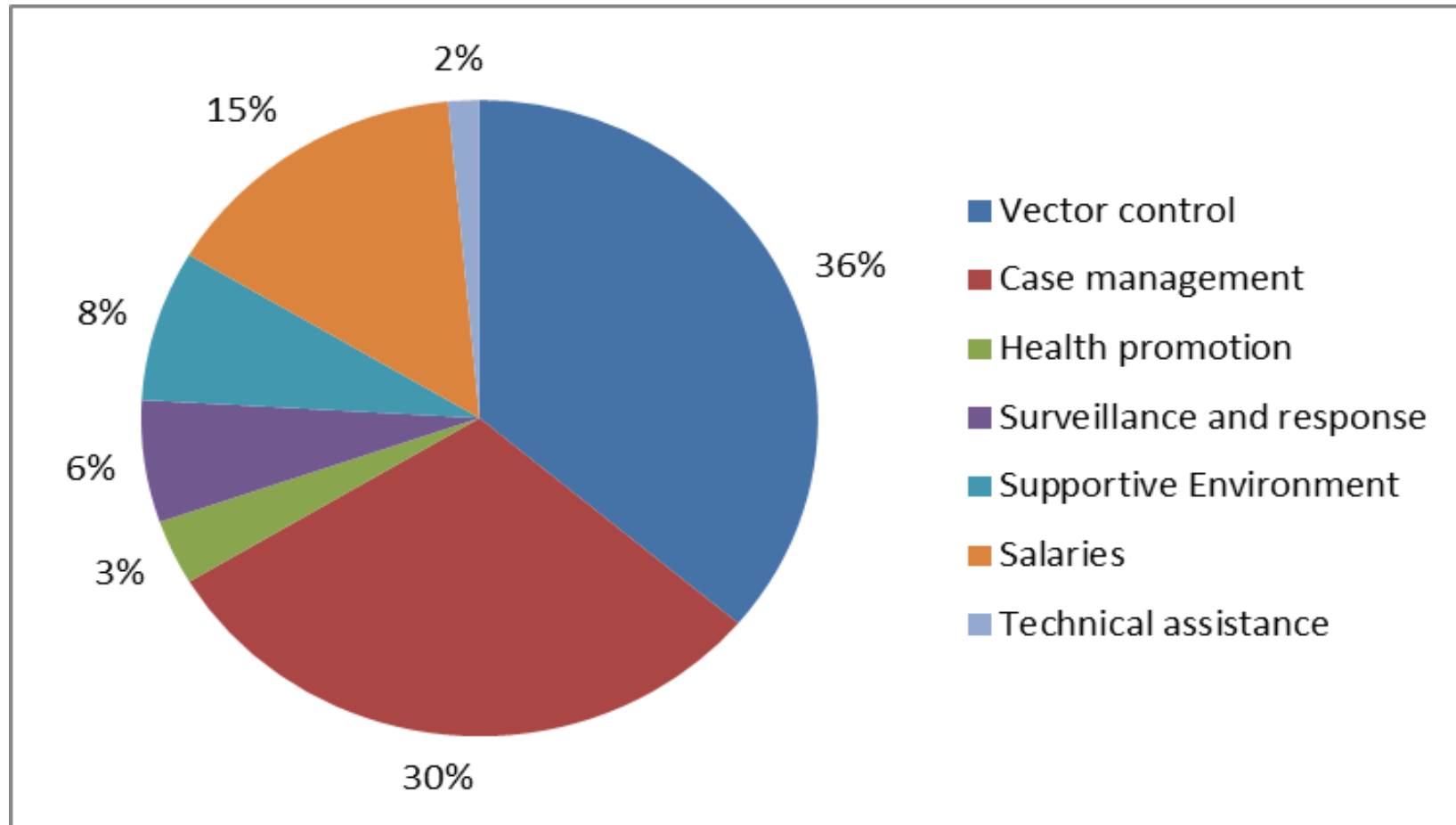
- 5.1 Develop and maintain strong malaria programme management at all levels.
- 5.2 Implement robust programmatic supervision and monitoring and evaluation (M&E)
- 5.3 Implement robust procurement and supply management (PSM)
- 5.4 Conduct periodic policy review, strategy development and programme planning.
- 5.5 Ensure adequate and sustainable infrastructure and capacity for NMCP, CPHL and the PNG Institute of Medical Research (PNG-IMR).
- 5.6 Strengthen leadership and governance regionally, nationally and sub-nationally.

# Enabling environment cont..

- 5.7 Strengthen political commitment regionally, nationally and sub-nationally.
- 5.8 Ensure adequate financial support.
- 5.9 Develop and enhance multisectoral partnerships for action
- 5.10 Support continued active coordination between the National Department of Health (NDoH) and malaria stakeholders in PNG.
- 5.11 Support active international technical collaboration.
- 5.12 Develop cross-border collaboration with neighboring countries in preparation for elimination.



# Budget allocation by Objective, National Malaria Strategic Plan, Papua New Guinea, 2021-25.



# Diseases of Elimination targets

- Target for malaria elimination is set for 2030

# KEY INTERVENTIONS

1. MALARIA VECTOR CONTROL AND PERSONAL PROTECTION
2. MALARIA CASE MANAGEMENT
3. BEHAVIOR CHANGE COMMUNICATION (BCC)
4. SURVEILLANCE AND RESPONSE
5. ENABLING ENVIRONMENT

# Support Required from PHAs

- PHAs need to identify all essential positions at provincial and district levels to maximise implementation.
- Absorb all donor-funded provincial malaria positions.
- Improve the capacity of Health staff in the management of commodities to avoid drug stockout issues
- Improve capacity issues at all levels for program implementation
- Build capacity for epidemiology and M&E at provincial level.
- Improve coordination with partners and NDoH.
- Provide active leadership and ownership of disease control programs at the provincial level.
- Prioritise impact programs for improving health indicators' and outcomes