

# PARASITE HOST BIOLOGY DIVISION IN NATIONAL INSTITUTE OF MALARIA RESEARCH DELHI:

## A STUDY ON MALARIA CASES

From-1-05-2023 to 30-06-2023

### ABOUT THE ORGANISATION

**ICMR-National Institute of Malaria Research** was established in 1977 as 'Malaria Research Centre', which was renamed as 'National Institute of Malaria Research' in November 2005. ICMR-NIMR is one of the institutes of the Indian Council of Medical Research (an autonomous body under Department of Health Research, Ministry of Health & Family Welfare, Govt. of India).

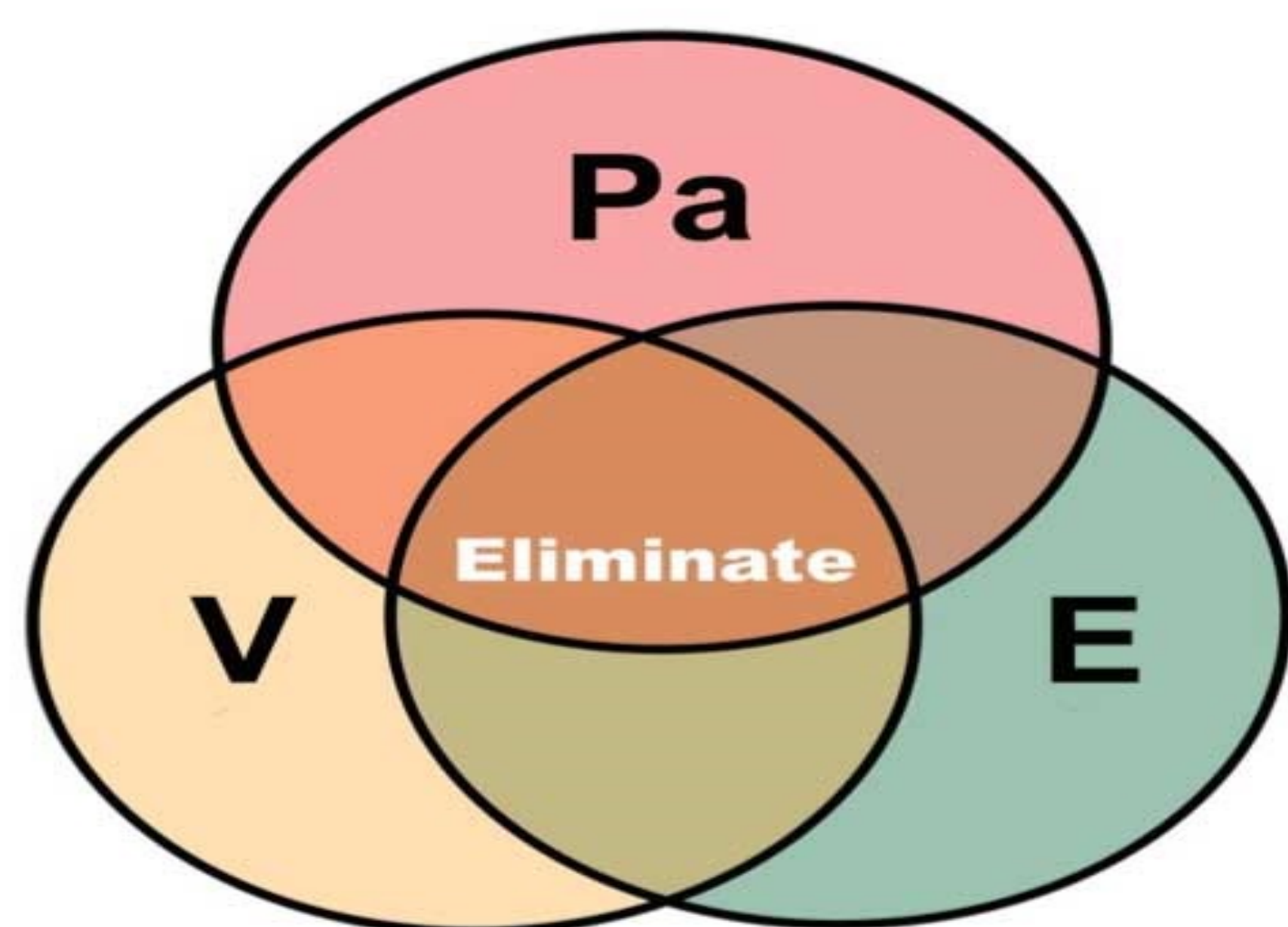
ICMR-NIMR has a network of well-developed laboratories at Delhi carrying out research on most aspects of malaria along with 8 field units in malaria prone areas, which serve as testing ground for new technologies and help in the transfer of technologies.

**Vision:** Advancements in malaria research and making significant contributions to malaria control and elimination efforts in India.

**Mission:** The primary task of the Institute is to find short term as well as long term solutions to the problems of malaria through basic, applied and operational field research.



### PaVE the Way for Malaria Elimination



**Parasite-host biology**  
**Vector biology**  
**Epidemiology & Environmental biology**

### STRENGTH

Research expertise  
Government support  
Infrastructure and facilities

### WEEKNESS

Limited resources  
Focus on malaria

### SWOT

### OPPORTUNITES

Expansion of research area  
Technological advancement

### THREATS

Emergence of drug resistant strains  
Competing research institutions  
Public health infrastructure

### ORGANISATION STRUCTURE

## DIRECTOR

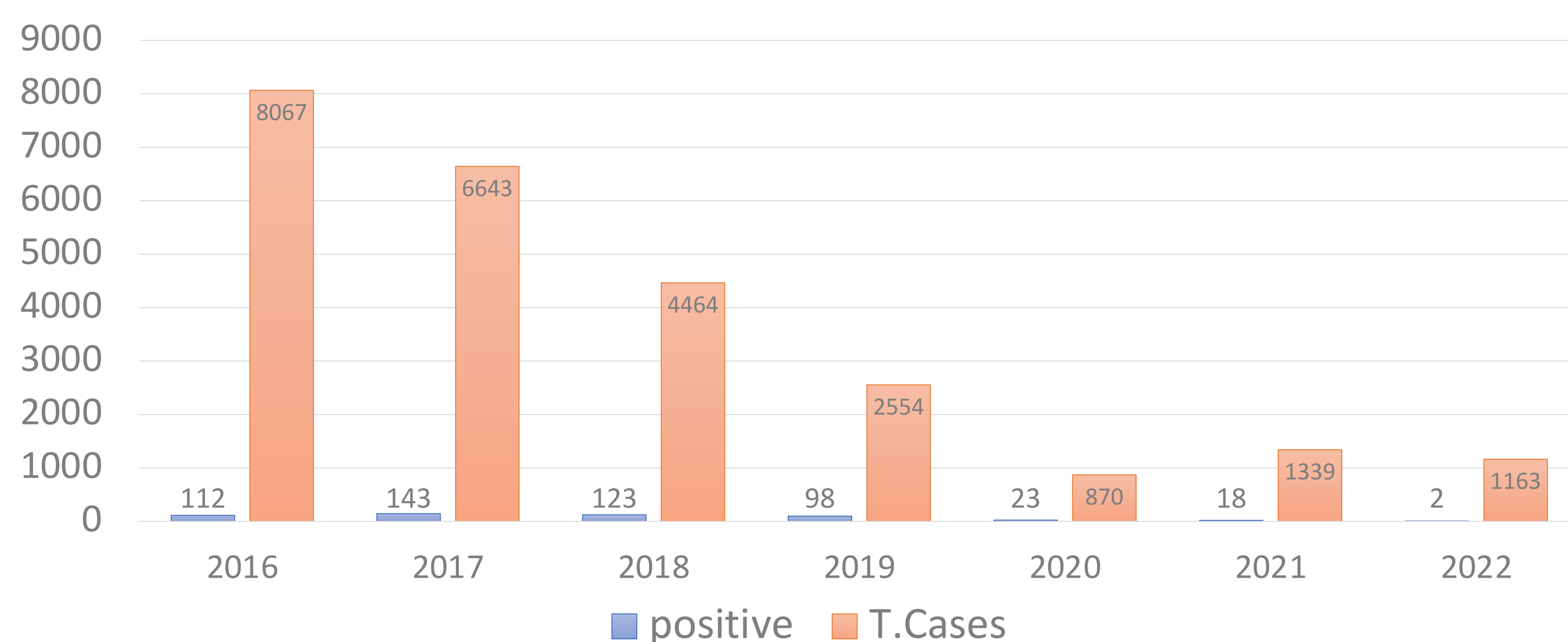
### SCIENTIFIC DIVISIONS AND DEPARTMENTS

### RESEARCH SCIENTISTS AND TECHNICAL STAFF

### ADMINISTRATIVE AND SUPPORT STAFF

### ADVISORY COMMITTEES

### DECREASE IN MALARIA CASES IN DELHI 2016-2022



### A survey on malaria elimination

**Introduction:** This report presents an analysis of malaria cases from 2016 to 2022 based on a recorded 25,100 patients that visited NIMR OPD. Malaria caused by Plasmodium parasites, is a prevalent mosquito-borne disease that poses a significant global health challenge. This aims to provide insights into the prevalence of malaria within the studied population during the specified timeframe.

**Survey Results:** Out of the 25,100 patients included, a total of 519 individuals were diagnosed with malaria. This represents an overall malaria positivity rate of approximately 2.07% within the recorded population. These findings highlight the burden of malaria and decrease in the positive cases over the years and growth in achieving the malaria elimination goal by 2030 in India.

**Temporal Analysis:** Analysing the data over the seven-year period, it is evident that malaria cases exhibited variations and decrease. The yearly distribution of positive cases ranged from a low of 112 in 2016 to a high of 147 in 2017. There was a slight decline in cases observed in subsequent years, with 123 cases in 2018, 98 cases in 2019, 18 cases in 2021, and 2 cases in 2022.

**Implications:** These findings emphasize the presence of malaria within the surveyed population and with gradual fall in positive cases. While the overall positivity rate relatively decreased, the fluctuations in annual case counts attention. This data can inform policymakers and healthcare professionals to develop targeted interventions and allocate resources effectively to combat malaria transmission and reduce the burden on affected communities.

**Conclusion:** The highlights of this recorded data has shown continuous decrease in positive cases of malaria within the population from 2016 to 2022. Efforts to prevent, diagnose, and treat malaria should be intensified to achieve substantial reductions in transmission. Implementation of mosquito control measures, distribution of bed nets, improved access to diagnostics and effective antimalarial medications, and health education campaigns can play a vital role in mitigating the impact of malaria. Continued monitoring and evaluation are essential to track progress, adapt strategies, and ultimately work towards the goal of malaria elimination.



### Challenges Faced

- My internship involved working with a diverse team of researchers, scientists, and technical staff. Effective collaboration and communication skills were important to navigate the research environment, understand instructions, and contribute to team efforts.
- Working in research culture organisation was tough.
- The time management was also a challenge, while working with the Labs and clinics as I had to submit all the work in a limited time frame.
- It took me excessive time to commute.

### Usefulness of Internship

- I had the opportunity to contribute to public health initiatives. Through research work, the understanding of malaria transmission, prevention strategies, and interventions, ultimately made a positive impact on the health and well-being of communities affected by malaria.
- I acquired practical experience, time management skills, by working in a government organisation that expanded my knowledge.
- It helped me gain experience and skills in critical thinking, problem-solving, and teamwork abilities by collaborating with researchers and staff members.

### Suggestion

- To extend OPD hours so that more patients can be addressed.
- Briefing of OPD patients should be done to increase the awareness and improve community behaviour towards malaria.

### Learnings

- Time management
- Gained hands-on experience in laboratory protocols, data collection, and analysis.
- Worked closely with scientists from diverse backgrounds, including entomology, parasitology, and public health. Collaborating with professionals from different disciplines enhanced my understanding of the complexity of government organization.

### THEORETICAL KNOWLEDGE

- Emphasize leadership development and teamwork skills.
- Data analysis and interpretation.

### PRACTICAL EXPOSURE

- Got to enhance those while collaborating with multidisciplinary teams, leading small tasks and participating in group discussions.
- Analyzing epidemiological data, survey results, or laboratory findings, providing insights that contributed to evidence-based decision-making.

| NATIONAL DRUG POLICY FOR MALARIA                   |                                |                                |                                |                                |
|----------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Chloroquine Resistance Schedule for P. vivax cases |                                |                                |                                |                                |
| Age in years                                       | Day 1 (10mg/kg) No. of tablets | Day 2 (10mg/kg) No. of tablets | Day 3 (10mg/kg) No. of tablets | Day 4 (10mg/kg) No. of tablets |
| <1                                                 | 1                              | 1                              | 1                              | 1                              |
| 1-4                                                | 1                              | 1                              | 1                              | 1                              |
| 5-8                                                | 2                              | 2                              | 2                              | 2                              |
| 9-14                                               | 3                              | 3                              | 3                              | 3                              |
| 15 & above                                         | 4                              | 4                              | 4                              | 4                              |

| Primaquine for P. vivax (Daily Dosage for 14 days) |                           |                              |
|----------------------------------------------------|---------------------------|------------------------------|
| Age in years                                       | Daily dosage (in mg base) | No. of Tablets (2.5 mg base) |
| <1                                                 | Nil                       | Nil                          |
| 1-4                                                | 2.5                       | 1                            |
| 5-8                                                | 5.0                       | 2                            |
| 9-14                                               | 10.0                      | 4                            |
| 15 & above                                         | 15.0                      | 6                            |

Note: Primaquine should be given for 14 days under supervision. Do not give Primaquine to pregnant women, infants and Cases with G6PD deficiency

