

FEVER LANDSCAPE

QUALITY OF REPORTED DATA

METRICS	QUALITY	IDENTIFIED GAPS OR PROBLEMS
NUMBER OF MALARIA CASES AND DEATHS		<p>Cases of malaria appear to be slightly under-reported, with WHO estimating that there are actually ~20% more cases and ~30% more deaths than reported each year:</p> <ul style="list-style-type: none"> Notification of cases is incomplete, intense malaria transmission is largely restricted to hilly, forested areas in southern and central provinces where the people at highest risk include forest and forest-fringe inhabitants (commonly ethnic minority groups), temporary migrants and seasonal workers who do not benefit from the same access to malaria commodities and services as the general population
BURDEN OF OTHER INFECTIOUS DISEASES CAUSING FEVER		<p>Viet Nam is a relatively well-studied country regarding pathogen presence and endemicity. However, there is a lack of systematic surveillance for endemic or potentially endemic pathogens, meaning several known endemic pathogens (e.g. Leptospirosis) lack data regarding prevalence or severity on a regional or national scale</p>
ANTIMICROBIAL RESISTANCE		<p>With the establishment of the Action Plan on Antimicrobial Resistance 2013–2020, an inter-ministerial surveillance system has been set up at the national level; equipment has been installed, staff recruited and trained, surveillance networks strengthened and a network of sentinel surveillance sites has been established across the country</p> <p>Viet Nam is now focusing its efforts on the “One Health” approach to adopt a holistic vision of AMR reporting</p>

Data are often reported through siloed sponsored programmes (Malaria, AMR, ...), creating a lack of data for pathogens outside a specific reporting system



FOCUS ON MALARIA SITUATION

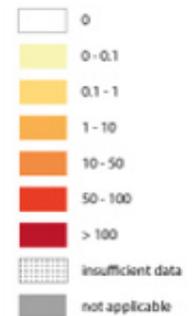
API* OF Pf (2017)



API* OF Pv (2017)



CONFIRMED CASES PER 1,000 POP



API: ANNUAL PARASITE INCIDENCE

SUSPECTED CASES TESTED AND TEST POSITIVITY IN PUBLIC HOSPITALS

	2005	2010	2017
Share of suspected cases tested (RDT or microscopy)	~95%	~100%	~100%
Test positivity (RDT or microscopy)	~2%	~2%	<1%

MALARIA EPIDEMIOLOGICAL PROFILE (2017)

Parasite prevalence per 1,000 (2016)		<1	
Population in area:	Malaria free	Low transmission (0-1 case per 1,000 pop)	High transmission (>1 case per 1,000 pop)
		25.1M (26%)	63.9M (67%)
Major <i>plasmodium</i> species	<i>P. falciparum</i> : 64% ; <i>P. vivax</i> : 35%		
Drug resistant malaria	Yes in some areas		
Estimated tested cases	2.6M		
Reported confirmed cases (health facility)	4.5K		
Estimated cases*	5.5K [5.1K-6.1K]		
Reported deaths	6		
Estimated deaths*	9 [0-16]		

With a very low parasite prevalence, Viet Nam is close to elimination but has seen a new challenge through the emergence of multidrug-resistant malaria

In 2017 in public hospitals, almost all cases of suspected malaria were tested

Note: (*) estimated by the WHO. Sources: WHO, Advention



NATIONAL MALARIA STRATEGY PLAN AND SURVEILLANCE

DECISION-MAKERS OTHER MALARIA INFLUENCERS (INTERNATIONAL)

NATIONAL MALARIA STRATEGY PLAN, 2017-2020

MoH
National Malaria Control Program (NMCP)
National Institute of Malaria, Parasitology and Entomology (NIMPE)
Regional Institute for Malaria, Parasitology and Entomology (IMPE)
Provincial Center for Malaria Control (PCMC)

The Department of Defense Naval Malaria Research Center-Asia
Asian Collaborative Training Network for Malaria (ACTMalaria)



TARGET

By 2020

- Morbidity below 0.15 per 1,000 population
- Mortality below 0.02 per 100,000 population
- Malaria eliminated in at least 40 provinces

With more than 40 provinces now malaria-free, all of these targets have already been achieved. Now the country aims to eliminate malaria by 2030

KEY INTERVENTIONS TO ACHIEVE TARGET

Strengthen the healthcare network and improve capacity for staff in charge of malaria control and elimination

Increase investments to ensure there is a sufficient budget for malaria control and elimination, including the Government budget and other international support, and ensure effective allocation and use of the budget

Extend international cooperation on malaria control and elimination, strengthen existing relationships and explore the possibility for new bilateral and multilateral cooperation. Priority is given to financial and technical support projects, and transfer of modern techniques

MALARIA SURVEILLANCE

MALARIA SURVEILLANCE SYSTEMS ASSESSMENT

NMCP has adopted an approach to malaria control that is broadly in line with best practice in the Greater Mekong Subregion but that would need to be updated to align with 2017 WHO Framework for Malaria Elimination

Public sector health facilities at all levels (including CHW and volunteers) and the private sector in the five most endemic provinces, are reporting through PSI. USAID reports that they are globally overburdened by the reporting requirements associated with Global Fund grants and other disease-specific programmes

The health information system need to be updated and a mechanism to count the number of people tested by microscopy and by RDT should be established (and not only the number of positive tests)

Viet Nam has achieved all of the targets set out in the *National Strategy for Malaria Control and Elimination in the Period 2011-2020* and now aims to eliminate malaria by 2030

The malaria surveillance system is in line with regional standards

Sources: MoH, WHO, Advention



MALARIA EPIDEMIOLOGY AND AMR LANDSCAPE IN PRIORITY COUNTRIES

PRIORITY COUNTRIES*



	VIET NAM	CAMBODIA	S. AFRICA	INDIA	PAKISTAN	MYANMAR	THAILAND
MALARIA EPIDEMIOLOGICAL PROFILE							
Parasite prevalence per 1,000 population	<1	–	<1	<1	1.7	<1	<1
Population living in malaria free area	25.1M (26%)	4.7M (29%)	51M (90%)	87.9M (7%)	3.3M (2%)	21.8M (40%)	34M (50%)
Population living in low transmission area	63.9M (67%)	3.6M (23%)	3.4M (6%)	1,100M (81%)	136.7M (69%)	23.6M (44%)	28.5M (42%)
Population living in high transmission area	25.1M (7%)	7.7M (48%)	2.3M (4%)	162.5M (12%)	57M (29%)	8.5M (16%)	5.4M (8%)
Proportion of <i>P. falciparum</i>	64%	58%	90%	62%	21%	66%	42%
Proportion of <i>P. vivax</i>	35%	41%	5%	37%	78%	34%	58%
MALARIA CASES AND DEATH							
Country's reported tested cases	2.6M	168K	56K	125M	6.5M	664K	1.1M
Country's reported confirmed cases	4.5K	36K	22K	0.8M	351K	78K	8K
WHO's estimated cases	5.5K	208K	22.5K	9.6M	956K	240K	52K
Country's reported deaths	6	1	301	0.2K	113	37	33
WHO's estimated deaths	9	345	274	16.7K	805	490	<50
AMR LANDSCAPE							
Average DDD**/person in 2015 (Avg in LMICs is 4.9)	11.5	–	9.2	4.9	7.1	–	6.7
Endorsement of the AMR National Plan	2013	2014	2014	2017	2017	2017	2016

Notes: (*) Last available year; (**) Defined Daily Dose allowing for cross-country comparison. Sources: WHO, World Bank, GF, interviews, Advention



OTHER INFECTIOUS DISEASES CAUSING FEVER

	ENDEMICITY	+ SURVEILLANCE SYSTEMS	+ CASES PER YEAR*	INTEREST FOR AN RDT
Dengue <i>Dengue virus</i>	Endemic in all regions, most cases are in the south (>70%)	National detection programme with referent laboratories in eight national and regional institutions	110K	 Strong demand for an RDT targeting a common pathogen
Chikungunya <i>Chikungunya virus</i>	Previous but not current transmission of Chikungunya	Ad-hoc surveillance system when epidemic outbreak	n.a	 Low demand for an RDT as the pathogen's endemicity is uncertain
Zika <i>Zika virus</i>	Local transmission confirmed in the Ho Chi Minh region	Ad-hoc surveillance system when epidemic outbreak	<300	 Moderate demand for an RDT as the reported case load is low
Melioidosis <i>Burkholderia pseudomallei bacteria</i>	Endemic throughout the country, most cases in the North Central region	No formal surveillance system, referral of clinical diagnoses to state authorities	>70	 Moderate demand for an RDT as reported case load is low
Leptospirosis <i>Leptospira genus bacteria</i>	Endemic throughout the country	No formal surveillance system, referral of clinical diagnoses to state authorities	n.a	 Moderate demand for an RDT as reported case load is low
Scrub typhus <i>Orientia tsutsugamushi bacteria</i>	Endemic throughout the country, most studies were made in the south	No formal surveillance system	n.a.	 Moderate demand for an RDT despite endemicity due to a lack of surveillance
Murine typhus <i>Rickettsia typhi bacteria</i>	Local transmission confirmed, possibly endemic, lack of data	No formal surveillance system	n.a.	 Low demand for an RDT as endemicity is not confirmed

>
A wide range of infectious pathogens causing febrile illnesses are endemic in Viet Nam
 However, limited surveillance and low reported case load limit interest in RDTs

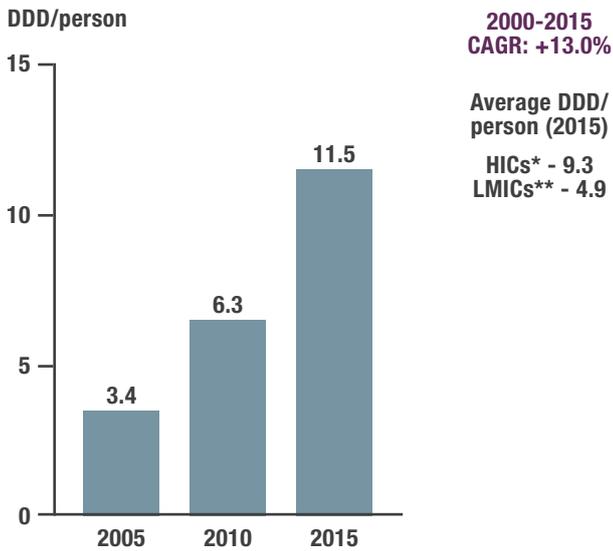
Note: (*) Best data available, reported data. Sources: research papers, Advention



ANTIMICROBIAL RESISTANCE (AMR)

VIET NAM IS AT HIGH RISK FOR AMR...

Consumption of antibiotics in Viet Nam is amongst the highest in the world, and increasing rapidly:



Therapeutic use of antibiotics remains poorly managed, with many behavioral risk factors:

2015 WHO AMR SURVEY

In a representative survey of the population:

- 38% consumed antibiotics in the past month
- 38% stop medication when they feel better
- 45% buy the same antibiotic if symptoms return
- 62% believe antibiotics can cure colds or the flu
- 74% agree AMR is a significant public health concern

Awareness and desire to tackle AMR amongst policymakers has grown over the past decade, culminating in the launch of the Action Plan on Antimicrobial Resistance 2013–2020.

...DESPITE GROWING POLICY TO CONTROL USE OF ANTIBIOTICS

2005	Drug Law of 2005 allowing antibiotics to be dispensed only with a prescription
2007	Only doctors working in legal healthcare centers and as an exception, assistant doctors in remote areas can be delegated to prescribe
2009	Set up of a national center for drug information and adverse drug reactions monitoring
2013	Launch of the Action Plan on Antimicrobial Resistance 2013–2020
2016	Establishment at a ministerial level of the “National Steering Committee” to monitor the implementation of the Action Plan

The need for policies to control the use of antibiotics is clearly recognized by the political and medical leadership.

Many initiatives have been launched; however these policies have not been as effective as hoped, since over the counter sales of antibiotics for minor illnesses is extremely common, while antibiotic use in hospitals is high and resistance rate increasing.

Barriers appear to come mainly from the enforcement side of the regulations which is lacking.

Awareness of Viet Nam’s high risk for AMR is increasing, but current actions have limited effects as enforcement appears limited

Notes: (*) High-Income Countries; (**) Low- and Middle-Income Countries. Sources: National Center for Disease Control, CDDEP, IQVIA, Advention