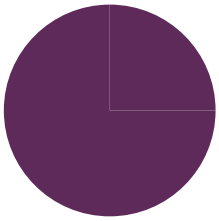
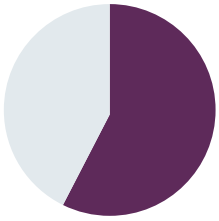
SOUTH AFRICA

FIND
Because diagnosis matters

FEVER LANDSCAPE

QUALITY OF REPORTED DATA

METRICS	QUALITY	IDENTIFIED GAPS OR PROBLEMS
NUMBER OF MALARIA CASES AND DEATHS		Cases of malaria appear to be well reported, with WHO estimating that there are only 2% more cases than reported each year Malaria is a category 1 notifiable medical condition and must be reported/notified within 24 hours of diagnosis There is no reporting system for combination drugs and RDT consumption
BURDEN OF OTHER INFECTIOUS DISEASES CAUSING FEVER		South Africa is a well-organized country; clinics and hospitals have access to surveillance systems and are well trained to notify Medical practitioners and diagnostic laboratories are required to notify cases (including deaths) suspected of having specified infections or diseases Yet, some pathogens are not systematically searched such as (Melioidosis, Typhus, etc…)
ANTIMICROBIAL RESISTANCE		With the establishment of the Antimicrobial Resistance National Strategy Framework (ARNSF) (2014–2024), a surveillance system has been established at the national level South Africa is part of the GLASS network and has 27 surveillance sites that are reporting. To date, they are reporting <70% of the data they committed to share within the network. This should improve with the healthcare system strengthening reform (related to the NHI) undertaken by the MoH

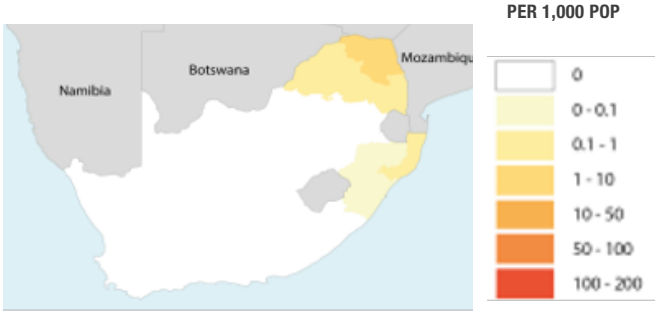
Overall, quality of reported data in South Africa is good

AMR reporting still needs improvement

Sources: NICD, WHO, Advention

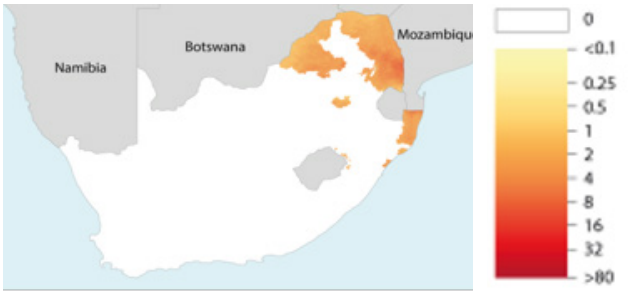
FOCUS ON MALARIA SITUATION

API* OF MALARIA (2017)



API: ANNUAL PARASITE INCIDENCE

Pf PARASITE PREVALENCE (2017)



TEST POSITIVITY IN PUBLIC HOSPITALS

	2010	2017
Share of suspected cases tests (RDT or microscopy)	~100%	~100%
Test positivity (RDT or microscopy)	<2%	~30%

2017 saw a significant increase in malaria cases and death tolls, coinciding:

- with increased travelling during the Easter weekend both within SA and from neighboring endemic countries. In SA, most malaria cases are imported
- a rise in temperature, rainfall and humidity reported over the season
- and a reduction in indoor residual spraying (IRS) in areas where malaria cases had declined in recent seasons

MALARIA EPIDEMIOLOGICAL PROFILE (2016)

Parasite prevalence per 1,000 (2015)	0.17		
Population in area:	Malaria free	Low transmission (0-1 case per 1,000 pop)	High transmission (>1 case per 1,000 pop)
	51M (90%)	3.4M (6%)	2.3M (4%)
Major *plasmodium* species	***P. falciparum***: 90%; ***P. vivax***: 5%; ***P. ovale*** 5%		
Drug resistant malaria	No		
Estimated tested cases	56K		
Reported confirmed cases (health facility)	22K		
Estimated cases*	22.5K [22.5K-22.5K]		
Reported deaths	301		
Estimated deaths*	274 [274-274]		

Only 10% of the South African population is living now in an at-risk malaria transmission zone, yet most cases are imported

Historical malaria rates in South Africa suggest that once attention and funding for control efforts are diverted, the disease could resurge, as observed in 2017

Note: (*) WHO estimates. Sources: CDC, WHO, Advention

NATIONAL MALARIA STRATEGY PLAN AND SURVEILLANCE

	DECISION-MAKERS	OTHER MALARIA INFLUENCERS (LOCAL)	OTHER MALARIA INFLUENCERS (INTERNATIONAL)
NATIONAL MALARIA STRATEGY PLAN	National Department of Health South African Malaria Elimination Committee	National Institute for Communicable Diseases (NICD)	World Health Organization, The Global Fund, unicef, USAID, PMI, Clinton Health Access Initiative

NATIONAL MALARIA STRATEGY PLAN

TARGET*

Strengthen passive and active surveillance, and monitoring and evaluation systems, so that 100% of districts report promptly and routinely on key malaria indicators by 2015

Ensure that all levels of the malaria programme have a core team to coordinate and implement elimination interventions by 2016

Disseminate appropriate messages so that 100% of the population has sufficient knowledge to influence their attitude and practice on malaria by 2018

Effectively prevent local malaria infections and eliminate parasite reservoirs in 80% of the malaria endemic districts in South Africa by 2018

KEY INTERVENTIONS TO ACHIEVE TARGET

Passive, active and entomological surveillance

Monitoring and evaluation and malaria information systems at all levels

Negotiation with other governments and partners to implement key interventions and cross-border malaria initiatives

Building capacity in skills and numbers for malaria elimination

MALARIA SURVEILLANCE

PUBLIC HEALTH REPORTING RATE IN 2017

80%

Malaria is a category 1 notifiable medical condition and must be reported/notified within 24 hours of diagnosis. In an attempt to improve 24-h case reporting, the National Malaria Directorate together with the Clinton Health Access Initiative developed a cellular application

Currently, the three malaria endemic provinces have their own Malaria Information System (MIS) where all malaria case data are captured. Although data collected by these three systems are not uniform, a core set of essential data variables are maintained and captured by all

South Africa is aiming to eliminate malaria over the next 10 years

Most cases being imported, reporting and international collaboration are crucial and necessary tools

Note: (*) Most recent malaria elimination strategy (2012-2018). Sources: Research paper, WHO, NDOH, 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 *P. falciparum*	64%	58%	90%	62%	21%	66%	42%
	Proportion of *P. vivax*	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 *Dengue virus*	Possibly endemic. Mostly imported cases	Must be reported weekly by all public and private laboratories	<20	Low demand for an RDT as the pathogen's endemicity is uncertain
Chikungunya *Chikungunya virus*	Endemic in restricted ecological niches in LP and KZN states. Mostly imported cases	Must be reported weekly by all public and private laboratories	<10	Low demand for an RDT as the pathogen's endemicity is uncertain
Zika *Zika virus*	Not endemic. No cases reported	Must be reported weekly by all public and private laboratories. Active surveillance in KZN	0	Low demand for an RDT as the pathogen's endemicity is uncertain
Melioidosis *Burkholderia pseudomallei bacteria*	Lack of data	No formal surveillance system	n.a.	Low demand for an RDT as the pathogen's endemicity is uncertain
Leptospirosis *Leptospira genus bacteria*	Endemic in all states, most cases are in rural areas	No formal surveillance system, referral of clinical diagnoses to state authorities	n.a.	Low demand for an RDT as reported case load is low
Scrub typhus *Orientia tsutsugamushi bacteria*	Lack of data	No formal surveillance system	n.a.	Low demand for an RDT as the pathogen's endemicity is uncertain
Murine typhus *Rickettsia typhi bacteria*	Lack of data	No formal surveillance system	n.a.	Low demand for an RDT as the pathogen's endemicity is uncertain

Arboviruses are included in the notifiable disease list but occurrences are rare

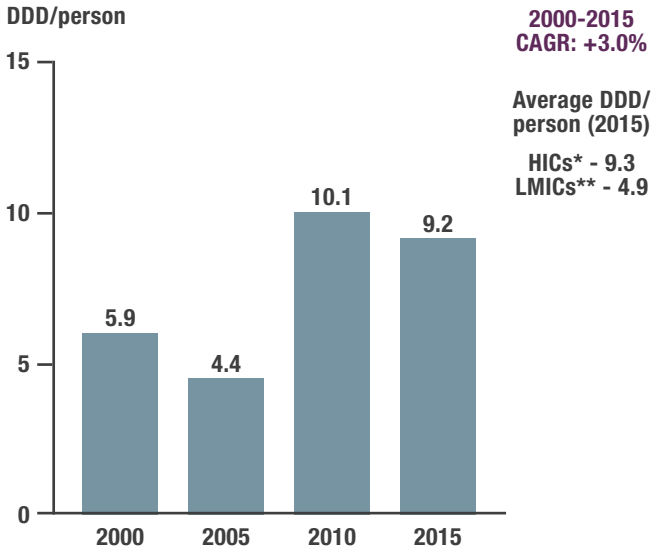
The remainder diseases targeted by the multiplex are either not endemic or neglected diseases in South Africa, generating a low interest for an RDT

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

ANTIMICROBIAL RESISTANCE (AMR)

AWARENESS OF AMR AS A PROBLEM IS RISING…

Consumption of antibiotics in South Africa is amongst the highest in Africa:



The collision of two pandemics (HIV and TB), as well as the burden of several tropical diseases, led to many behavioral risk factors:

2015 WHO AMR SURVEY

In a representative survey of the population:

- 31% consumed antibiotics in the past month
- 11% stop medication when they feel better
- 38% buy the same antibiotic if symptoms return
- 69% believe antibiotics can cure colds or the flu
- 55% agree AMR is a significant public health concern

…BUT ACTIONS TO REDUCE THE RISK REMAIN LIMITED

South Africa developed a national AMR strategy: ARNSF (2014-2024)*.** It complements international efforts and is seen as a major step towards containment of the growing threat of AMR in human and animal health. The main items of the plan are:

- Antimicrobial surveillance and reporting
- Antimicrobial stewardship
- Improved infection prevention and control

This framework is a first response to a growing problem causing high morbidity and mortality

> "AMR is a very big topic and great concern in South Africa. Obviously, more education needs to be done on doctors to not treat automatically with antibiotics but dedicated tools such as your CRP test are needed." NICD, Medical Scientist

National Institute for Communicable Diseases (NICD), that is in charge of coordinating the SA national AMR surveillance network, has also been designated by WHO to support implementation of GLASS in the WHO African region through capacity building.

South Africa joined the GLASS network in 2016 and now has 27 GLASS surveillance sites.

Awareness of AMR as a problem is increasing, but current actions have a limited impact

ARNSF (2014-2024) is seen as a blueprint for other middle-income countries in the region

Notes: (*) High-Income Countries; (**) Low- and Middle-Income Countries; (***) Antimicrobial Resistance National Strategy Framework. Sources: MoH, IQVIA, Advention