

# WHO initiative to stop the spread of *Anopheles stephensi* in Africa



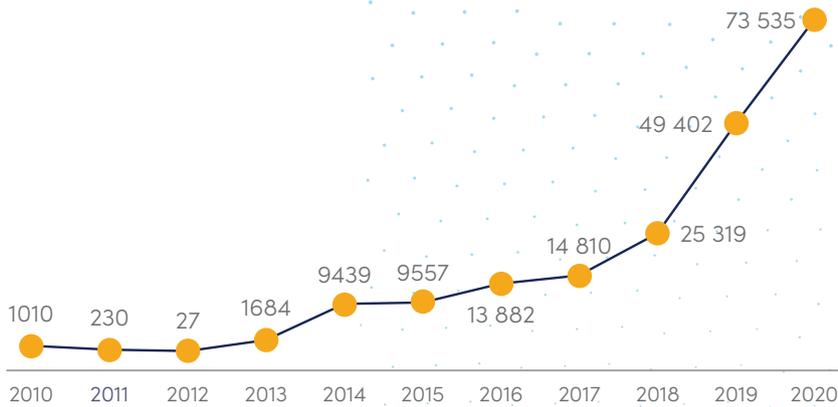
## *Anopheles stephensi* at a glance

*Anopheles stephensi* is a mosquito species that is capable of transmitting both *Plasmodium falciparum* and *P. vivax* malaria parasites. It was originally native to South Asia and parts of the Arabian Peninsula but has been expanding its range over the last decade, with detections reported in Djibouti (2012), Ethiopia and Sudan (2016), Somalia (2019) and Nigeria (2020). Although *An. stephensi* has likely spread to other African countries, it has yet to be detected as systematic, large-scale surveillance of the vector is still in its infancy.

*Anopheles stephensi* has the capacity to thrive in urban environments, setting it apart from the other main mosquito vectors of malaria that primarily breed in rural areas. Where *An. stephensi* has been reported in Africa, it has been found to be resistant to many of the insecticides used in public health, posing an added challenge to its control.

The invasion of *An. stephensi* in sub-Saharan Africa – where the burden of malaria is highest and over 40% of the population lives in urban environments – is particularly worrying. Since 2012, *An. stephensi* is thought to have contributed to a resurgence of malaria in Djibouti City and at least one outbreak of the disease in Ethiopia. While the overall contribution of *An. stephensi* to malaria transmission in the region is unclear, the rapid growth of many African cities, coupled with the invasion and spread of this highly efficient and adaptable malaria vector, could undermine the gains made in reducing the burden of the disease.

## Number of reported malaria cases in Djibouti, 2010–2020

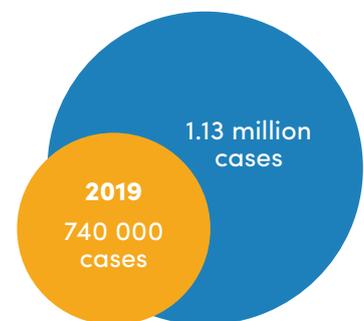


In a [2019 vector alert](#), the World Health Organization (WHO) identified the spread of *An. stephensi* as a significant threat to malaria control and elimination – particularly in Africa. This new WHO initiative, launched in September 2022, aims to stop the further spread of *An. stephensi* in the region and to determine whether it can be eliminated from areas that have already been invaded.

## Modelling the potential impact of *Anopheles stephensi*

Recent mathematical modelling studies have attempted to show how and where *An. stephensi* might be spreading, and the potential implications for malaria transmission and control in Africa. One [study](#) projected that *An. stephensi* could put an additional 126 million people in Africa at risk of malaria if the mosquito vector were to spread unchecked. Another [study](#) estimated that the number of malaria cases in Ethiopia could increase by 50% if *An. stephensi* were to spread to all receptive areas. However, these models are based on assumptions that have not been fully validated in the African context, and any results should be interpreted with caution.

**Projected increase in malaria cases in Ethiopia if *An. stephensi* were to spread to all receptive areas**



## Malaria hits hardest in the African Region

In 2020, the vast majority of all malaria cases (95%) and deaths (96%) were found in the WHO African Region. Young African children bear the brunt of the disease: an estimated 80% of all malaria deaths in the region are among children under the age of 5.

Many African countries with moderate to high malaria transmission saw a significant reduction in their malaria burden between 2000 and 2015. However, the rate of progress has levelled off in recent years, and disruptions to malaria services during the COVID-19 pandemic have further jeopardized malaria control efforts in the region.

**In 2020 the WHO African Region reported**

**228 million**  
NEW MALARIA CASES

**602 000**  
MALARIA-RELATED DEATHS

# NEW WHO INITIATIVE

To support an effective response to *An. stephensi* on the African continent, WHO is launching this initiative aimed at:



## Increasing COLLABORATION

National malaria control programmes, researchers, funders, and other actors conducting surveillance, research and control of *An. stephensi* must collaborate effectively to ensure that knowledge is shared, resources are used optimally, and key activities are prioritized. As *An. stephensi* has the potential to spread quickly, cross-border collaboration is essential, and countries should work together to ensure an effective regional approach.



## Strengthening SURVEILLANCE

Entomological surveillance can determine the extent of the spread of *An. stephensi* and its role in transmission; it is essential to target specific control measures and assess their impact. Human malaria case surveillance should be used to investigate the potential impact of the vector's presence on malaria, particularly in urban areas. Such surveillance might provide an indication of the presence of *An. stephensi* in areas where it has not yet been detected.



## Improving INFORMATION EXCHANGE

Information on the presence of *An. stephensi*, as well as on successes and failures in attempts to control the vector, needs to be documented and shared widely and rapidly – at both national and international levels – to determine best practices and inform the response across invaded areas.



## Developing GUIDANCE

National malaria control programmes need evidence-based guidance on the appropriate ways to conduct surveillance, implement control measures, develop by-laws, and devote resources to their response to *An. stephensi*. WHO provided an initial set of recommendations in its [2019 vector alert](#). This guidance will be reviewed

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