World malaria day is 25 April each year bringing a time to sit and reflect the efforts to combat malaria worldwide. The ethos of ‘zero malaria starts with me’ could not be more prevalent in the world’s current situation. While fighting the battle against COVID-19 we must not forget to strengthen the fight against malaria.

Eliminating malaria

The malaria elimination initiatives have taken great strides with a reduction in deaths between 2010 and 2014. However, these numbers have started to rise again over the period of 2014 to 2019, highlighting the need to revitalise this fight and keep moving forward with aggressive tactics.

Prevalence of malaria

As can be seen in the diagram above, the areas where malaria is most prevalent is within tropical climates. The warm humid areas make the spread of malaria very easy.

Transmission of malaria

Malaria is transmitted through the Plasmodium parasite utilising the female Anopheles mosquito as the vector. The basic lifecycle of malaria can be seen below.
Signs and symptoms of malaria

Once the parasite enters the bloodstream, distinct signs and symptoms of infection start to manifest. These include a fever that may be accompanied by chills. The patient may suffer from headache and severe sweating that could lead to dehydration. Some experience gastrointestinal symptoms such as nausea, vomiting and diarrhoea. Anaemia is common. Additional symptoms can be muscle aches, bloody stools and even convulsions that can lead to a coma. Symptoms vary from patient to patient, but rapid diagnosis is vital in the fight against morbidity.

In most countries the gold standard for malaria diagnostics is thick and thin smear microscopy. This however requires a trained microscope user and is time consuming. The results are variable as they are dependent on the level of skill and experience of the microscopist.

The XN-31 which was launched by Sysmex in August 2019 is a fully automated analyser providing a quantitative malaria result, together with a complete blood count, in under a minute. The LOD is 20 parasites per microliter of blood.

Key benefits at a glance

- Results you can rely on – reliable and objective malaria information using the technology of fluorescence flow cytometry
- Results from 1 mL blood or less without sample pretreatment
- Enhance and standardise your malaria testing
- Fast with 24/7 availability
- Quality of result independent of the skills of the operator

Diagnosis

Rapid diagnostic tests (RDTs) are found worldwide from many different sources. Unfortunately, the accuracy of these tests also varies from manufacturer to manufacturer. Most of the RDTs screen for *Plasmodium falciparum* which does account for most cases of malaria in Africa. Unfortunately, however, RDTs have been marred by the regular occurrence of both false positive and false negative test results. Despite this, and because of their ease of use, RDTs are the most commonly used diagnostic in the fight against malaria.