



REDUCING DEATHS AND SUFFERING  
FROM TROPICAL DISEASES

The MENTOR Initiative  
**ANNUAL REPORT**  
**2023**

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## Message from the CEO



The MENTOR Initiative's mission is to reach communities disproportionately affected by humanitarian crises where healthcare access is often severely limited, and people are more exposed to diseases.

We faced immense challenges in 2023, from emerging conflicts in Sudan and Gaza to ongoing crises in Central African Republic, South Sudan, Syria and Nigeria. Our commitment to protecting lives and building resilient health systems in these fragile settings remains unwavering.

None of our achievements this year would have been possible without the dedication and courage of the MENTOR team who serve communities in the most difficult environments, often at great personal risk. From those managing health programmes in conflict zones to the teams directly delivering life-saving interventions, their resilience and dedication ensure we are making a difference to the lives of millions of people.

This year, we expanded our integrated vector management efforts, protecting over 3 million people from malaria and other vector-borne diseases through indoor residual spraying and larval source management in South Sudan, Syria, and Nigeria.

In Syria alone, over 2.3 million people were

protected from leishmaniasis. While in Borno State, Nigeria we protected nearly 600,000 people from malaria, which highlights the scale and urgency of our work.

To improve access to quality healthcare we supported networks of community health workers who delivered nearly a million consultations. These frontline workers diagnosed and treated hundreds of thousands of cases of malaria and malnutrition in communities often cut off from basic services. By strengthening local health systems, we help communities not only survive but thrive in the long term.

To address neglected tropical diseases (NTDs), we provided millions of treatments for diseases such as onchocerciasis, lymphatic filariasis, and schistosomiasis, while also promoting hygiene practices to prevent their spread.

Our efforts in NTD control have brought hope to communities suffering from these debilitating illnesses and provided a significant contribution to countries like Angola and South Sudan in their progress towards disease elimination efforts.

Operational research was also central to our work in 2023. We carried out field trials in challenging settings like Yemen, Syria, and

Nigeria to test innovative tools such as spatial repellents and long-lasting larvicides. The results from these studies contribute to the global fight against vector-borne diseases, particularly focussing on tools and methods to control diseases in unconventional settings where standard tools may not work or are not suited to a specific environment.

We are grateful for the support of our donors who help drive our programmes forward. Equally vital are the local governments we partner with to ensure interventions are aligned with their priorities and policies. We are also proud to collaborate with partner organisations that share our vision for a healthier, more resilient future for the communities we serve.

As we look ahead to the coming months, we are more committed than ever to reach those most in need no matter how difficult the environment. Together with our donors, local governments, partners, and staff we will continue to bring health and hope to the world's most vulnerable populations.

**Richard Allan OBE PhD**  
Chief Executive Officer

September 2024





## Introduction

The MENTOR Initiative ('MENTOR') is a humanitarian organisation specialising in disease control and improving access to healthcare in acute and chronic emergency settings.

MENTOR is dedicated to the control of malaria, vector-borne and other diseases in complex, challenging situations. Our programmes are tailored to meet the needs of each setting and provide effective, evidence-based solutions to reduce suffering and save lives. We currently work across seven countries in Africa, the Middle East and South America.

MENTOR works with communities that are underserved by health services and more at risk of diseases because of factors such as conflict, displacement, extreme weather or living in remote, hard-to-reach areas.

Working with local governments, Ministries of Health, communities, donors, and partners we respond to the urgent health needs through programmes that reach people most at risk of disease and suffering.

MENTOR responds to humanitarian emergencies with an integrated approach often combining the following six key areas:

- Integrated Vector Management
- Access to Quality Healthcare
- Neglected Tropical Diseases (NTDs)
- Water, Sanitation and Hygiene (WASH)
- Monitoring and Evaluation
- Operational Research

MENTOR provides this specialist support to meet the needs of people with a higher risk of diseases and limited access to healthcare. We stay for as long as is needed to support the development of integrated, effective healthcare systems and resilient, long-term disease control.

The 2023 Annual Report showcases the impact of this robust holistic approach and highlights the exceptional work of our team who deliver complex programmes in challenging situations to make a difference to millions of people.



# Highlights in 2023

## 1 Venezuela

264,608 people reached through social behaviour change communication for vector management

## 2 Syria

2,274,690 people protected from diseases by indoor residual spray campaigns and long-lasting insecticide treated nets

## 3 Nigeria

871,880 people protected from vector-borne diseases by indoor residual spray campaigns and larviciding

## 4 Central African Republic

227,040 cases of malaria diagnosed and treated

## 5 South Sudan

1,104,637 treatments administered to control lymphatic filariasis and onchocerciasis

## 6 Angola

5,248,106 treatments administered to control four neglected tropical diseases

## 7 Mozambique

344,262 people accessed handwashing stations





Teams visiting a household ahead of the Indoor Residual Spray campaign addressing malaria in Borno State, Nigeria (photo: Sani Adamu)

## Integrated Vector Management

Integrated vector management uses various control strategies to target multiple vectors at the same time, significantly helping to reduce the prevalence and spread of diseases such as malaria and dengue fever. In 2023, MENTOR implemented this holistic approach in South Sudan, Nigeria, Syria and Venezuela increasing the effectiveness of vector control and helping to create a lasting impact where people are most at risk of diseases.



**597,838**

Households sprayed indoor

**3,097,854**

people protected



**larval source management**

**312,964**

people protected



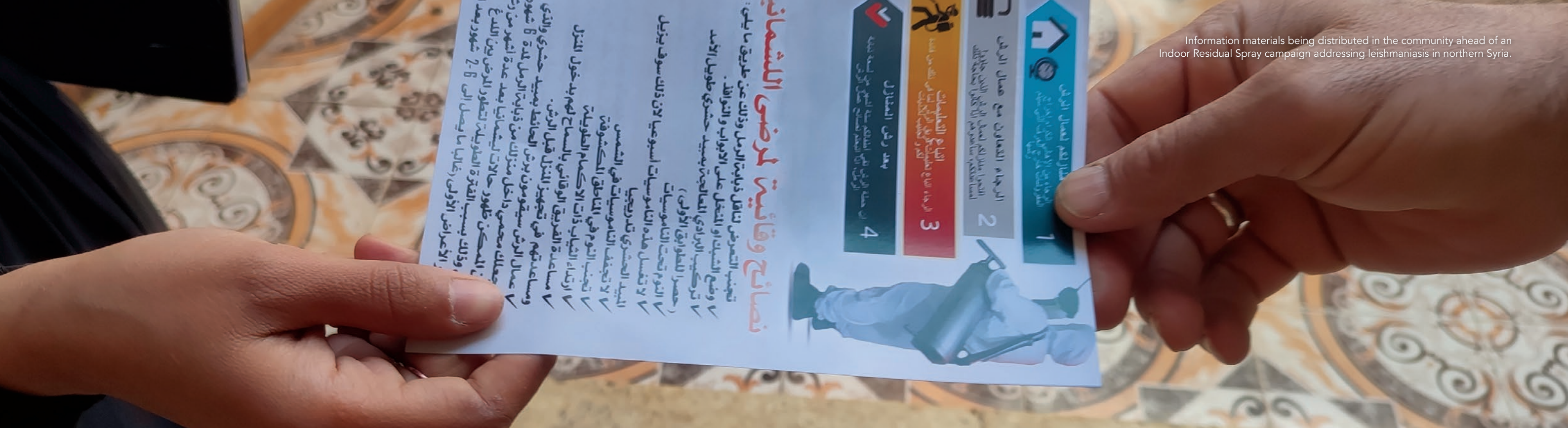
**45,553**

long-lasting insecticide treated nets distributed

**91,043**

people protected





Through a combination of activities such as indoor residual spraying and larval source management, integrated vector management has a greater impact on a vector's lifespan and overall population number.

It is more effective than using a single strategy which could see a vector adapting to or avoiding control measures. With different control methods, several vectors are targeted improving the efficiency of activities and creating multiple health benefits.

In the emergency settings where we work, people are more exposed to the vectors that transmit and spread diseases because of inadequate shelter, poor sanitation, and lack of access to clean water. A combination of the most suitable, effective activities adapted to each setting is the only way to address these complex factors and end suffering.

In **South Sudan**, refugees from Sudan as well as returning South Sudanese nationals who have fled conflict in the country, live in camps in Renk, Maban and Jamjang. The high incidence of malaria is the most urgent concern for health facilities here, because of the large number of mosquito breeding sites in and around the camps and the prolonged rainy season. Poor living conditions in overcrowded camps and inadequate shelter further increase the risk of diseases for communities.

In 2023, MENTOR carried out indoor residual spray campaigns in 44,546 homes and shelters in these camps and host communities, helping to protect

over 280,000 people from infectious diseases and prevent outbreaks that put an intolerable strain on health services. The emergency programme in South Sudan was supported by The Bureau of Population, Refugees, and Migration (PRM)

Larval source management was used to disrupt the life cycle of vectors at 92,206 breeding sites and 26,453 long-lasting insecticidal treated nets were distributed helping to protect almost 47,000 people.

In northern **Syria**, communities continue to face one of the most severe humanitarian crises globally after more than a decade of conflict. This has led to a significant loss of life, widespread displacement and deteriorating infrastructure.

Despite these challenges, millions of internally displaced people have settled in the region, putting pressure on the under-resourced health system unable to meet the increasing health needs of the population. In combination with exposure to unimproved dump sites and poor sanitation, this situation increases the risk of communicable diseases such as leishmaniasis, a neglected tropical disease affecting 12 million people globally.

In 2023, MENTOR sprayed insecticide in 443,382 homes and shelters, specifically targeting sandflies and other vectors. Additionally, 19,100 long-lasting insecticidal nets were distributed, which together with spraying helped to protect over 2.3 million people from leishmaniasis and other vector-borne

diseases.

The programme was funded by USAID's Bureau for Humanitarian Assistance (BHA) and the Syrian Cross-Border Humanitarian Fund, co-ordinated with partner organisations and local health and council authorities.

## Entomological surveillance

Entomological surveillance supports local authorities to develop effective vector control strategies. Working with local health authorities and research institutes, we help improve the monitoring of vector populations and assess interventions on vector-borne diseases.

In 2023, MENTOR partnered with the National Public Health Directorate and The Global Fund to implement entomological surveillance at Lobito port in the province of Benguela, **Angola**, specifically addressing *Anopheles stephensi* mosquito species.

The spread of *Anopheles stephensi* across Africa is a significant public health concern, as it can exacerbate the burden of malaria, particularly in urban areas. This expansion requires a robust entomological surveillance system that allows for early detection and notification, leading to the implementation of rapid control measures. Points of entry, such as cargo and passenger seaports or land routes across border, should be prioritised in a surveillance network.





An operator spraying insecticide onto indoor walls to shorten mosquito's lifespan and the risk of transmission.

## Addressing high rates of malaria in northeast Nigeria

In **Nigeria**, the insurgencies led by Boko Haram and the Islamic State in West Africa Province (ISWAP) have displaced over 2.3 million people and destabilised large areas, with some regions becoming inaccessible and falling under the control of these groups.

The resulting insecurity has allowed other armed groups to emerge, further endangering civilians. Around 25 million Nigerians face food insecurity due to this instability, climate change, and inflation. In Borno State, the most insecure region, endemic diseases like malaria, cholera, and viral haemorrhagic fevers are exacerbated by seasonal weather patterns, reduced healthcare access, and poor sanitation.

Malaria, a leading cause of illness and death in Nigeria, worsens during the rainy season when fresh water creates breeding grounds for the *Anopheles* mosquito. In Borno, malaria accounts for 70% of illnesses, with cases rising from 307,175 in 2019 to 586,402 in 2022.

Despite the Seasonal Malaria Chemoprevention (SMC) campaigns which only target children under five, malaria rates continue to grow. The need for broader interventions such as indoor residual spraying, long-lasting insecticidal nets, and larval source management, is critical to reducing the spread of malaria and save lives.

In 2023, the indoor residual spray campaign was implemented in 29 internally displaced persons camps: 12 in Monguno, 3 in Maiduguri and 14 in Jere. Spraying was also carried out in host communities where internally displaced people live and there is a high risk of vector-borne diseases. The programme was funded by United against Malaria (UN Foundation) and USAID's Bureau for Humanitarian Assistance (BHA).

Indoor spraying protected a total of 587,132 people from malaria and other vector-borne diseases, exceeding the target of 493,583. A total of 109,910 households were sprayed in the target locations, achieving 100% household coverage.

Community educators delivered hygiene promotion messages to households to improve awareness of the increased risk of diarrheal disease transmission, promote hand washing with soap at critical times, safe water storage, waste management, the use of toilets, and prevention of malaria and other vector-borne diseases.

Hygiene promotion interventions reached 109,910 households. Due to these activities, 91% reported storing their drinking water safely in clean containers and for less than a week. Also, 91% of households targeted by these activities to control flies and prevent diarrhoea infection were found to have no evidence of faeces in the living area.



Gertrude Makodi (left), a MENTOR supervisor in Berberati, Central African Republic meeting with a community health worker as part of a UNICEF-funded programme that focuses on primary healthcare and nutrition for children under 5 years old.

## Access to Quality Healthcare

For many communities, access to healthcare is severely reduced or lacking because of various factors such as forced displacement, under-investment or living in hard-to-reach locations. In these situations, community-based healthcare becomes critical to prevent diseases, improve health and save lives.



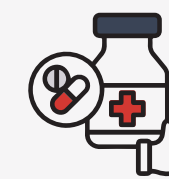
**2,229**

community health workers supported across four countries



**928,827**

consultations by community health workers



**286,004**

malaria cases diagnosed and treated by community health workers





**58,236**

malnutrition  
diagnoses



**621,755**

consultations by  
supported health  
facilities



**348,930**

malaria cases  
diagnosed and treated  
in health facilities

MENTOR supports community health worker programmes in Angola, Central African Republic, Mozambique and Venezuela to improve access to healthcare services and promote health-seeking behaviour. Community health workers are reliable and trusted members of their community who provide health education, disease prevention and control interventions as well as link healthcare facilities and the communities they serve.

We work closely with local community members and health authorities to train, equip and support community health workers within their communities. The training and supervision of health workers is essential to maintain a strong healthcare workforce, with the knowledge and skills needed to deliver quality care.

Training for community health workers is adapted to each country's programmes and priorities. In 2023 we supported refresher training for 378 community health workers in Cabo Delgado Province, **Mozambique** in partnership with the Provincial Health Directorate. Training focussed on the diagnosis, treatment and referrals for the main causes of mortality in northern Mozambique (malaria, diarrhoeal diseases and acute respiratory infections). Supported by USAID's Bureau of Humanitarian Assistance (BHA).

**Angola** faces significant challenges in healthcare access due to a shortage of trained health workers and a health system spread over vast areas, leaving many underserved or receiving poor-quality care. The country continues to experience high maternal and infant mortality rates from preventable diseases. Since 2004, MENTOR has partnered with the Ministry of Health to provide technical support, improve healthcare access, and enhance the quality of care through on-the-job supervision, updates on best practices, and monitoring of health worker performance focussing on areas in need.

During 2023, MENTOR supported the supervision of 652 community health workers, who provided 60,875 consultations in their communities and diagnosed and treated 34,695 cases of malaria. Angola is scaling up its community health-based approach in an initiative led by the Government of Angola aiming to improve access to healthcare in remote underserved areas. MENTOR was one of the few organisations in the country providing support to community health workers across a wide range of geographies. This included areas highly endemic for malaria and regions targeted for malaria elimination.

Supported by the The Global Fund's Elimination 8 (E8) grant and Population Services International (PSI) through the US President's Malaria Initiative (PMI).

### Healthcare emergency in Central African Republic

In **Central African Republic**, clashes between government forces, government allies and armed groups since 2012 have caused a protracted humanitarian crisis that has reduced access to essential services.

The fragile situation continues to deteriorate and as of December 2023, 3,926,402 people had been affected by the crisis, including 504,992 internally displaced persons (13% of the displaced population). (International Organization for Migration)

The health system struggles to provide essential services due to a severe shortage of skilled health workers, medical supplies and facilities. Young children and pregnant women are especially vulnerable to diseases and mortality rates are unacceptably high.



Community health workers (known as *Agente Polivalente Elementaire* in Mozambique) attend refresher training focused on diagnosing, treating and referring the main causes of mortality in northern Mozambique.

Communities are at risk of many diseases, particularly malaria, respiratory tract infections and diarrhoeal diseases which places a huge burden on an already strained health service.

MENTOR is responding to this healthcare crisis through the robust support of community-based healthcare, including community health workers, improving health facilities and nutrition centres, and distributing essential medical supplies.

In 2023, MENTOR distributed five three-wheel motorcycles adapted to safely transport people and supplies to hard-to-reach communities, supported by UNICEF. The new motorcycles helped strengthen the vaccination programme in Nola and Berberati Health Districts in the south of the country where challenging road conditions make it difficult to reach some villages.

Albert Ilboudo, MENTOR Base Coordinator in Berberati, said: "These vehicles will allow us to reach villages and populations where a four wheeled vehicle cannot reach due to poor road conditions. This is a very significant step to ensure that the population in these areas received

adequate health care, have access to drugs but can also be evacuated if needed."

MENTOR also refurbished a nutrition centre in the University Hospital of Berberati, which treats between 30 to 40 children a month for severe malnutrition. We carried out the improvement work to the building, which has three admission rooms and a meal preparation room after it fell into a state of disrepair.

Mothers are supported to be able to stay and care for their children if they are admitted for treatment.

According to a report from IPC Global 1% of children in Berberati have severe malnutrition and 6.8 moderate malnutrition, meaning in one year (2022) around 5,800 children were affected by a form of malnutrition.

During 2023 community health workers diagnosed 58,236 cases of malnutrition and diagnosed and treated 81,513 cases of malaria. We also supported health facilities to carry out 210,340 consultations.

Staff at a MENTOR-built health facility in Paoua, Central African Republic preparing to administer vaccinations and malnutrition scans for babies born here. Built in 2019 with funding from UK aid, the facility supports over 4,000 people and includes a maternity unit that delivers on average 20 babies a month. Every month MENTOR also distributes the supplies required to care for children (0-59 months) and pregnant women. The support is considered life changing as the population no longer must walk 8km to access healthcare.

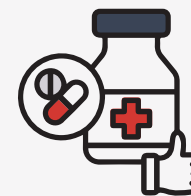




Hygiene promotion in schools in Venezuela is helping to improve health and prevent diseases such as dengue and diarrhoeal diseases.

## Neglected Tropical Diseases

During 2023, mass drug administration campaigns and hygiene promotion activities made a significant impact on neglected tropical diseases (NTDs) and the harm and suffering they cause to millions of people.



**11,900**  
rapid diagnostic tests for  
**Human African  
Trypanosomiasis**

**2,238,968**  
treatments provided for  
**onchocerciasis**

**1,042,881**  
treatments provided for  
**lymphatic filariasis**

**2,276,422**  
treatments provided for  
**schistosomiasis**

**794,472**  
treatments provided for  
**soil-transmitted  
helminths**



MENTOR supported national neglected tropical disease programmes in partnership with health ministries in Angola, Central African Republic, and South Sudan effectively addressing the most debilitating and sometimes disfiguring NTDs such as dengue, leishmaniasis, onchocerciasis and lymphatic filariasis. These campaigns were aligned with WHO 2030 Roadmap targets and accelerate progress for the control and elimination of NTDs through the widest geographical and therapeutic coverage.

In **Central African Republic**, a pilot project to diagnose and treat Human African Trypanosomiasis (HAT) was launched in Batangafo and Kabo Districts supported by FIND. Community health workers, healthcare providers and traditional practitioners from local areas were trained to carry out the testing, which forms part of the community health strategy for the Ministry of Health.

During the first round 51 people tested positive out of the 647 tests administered. Positive cases were referred to the nearest hospital to confirm the diagnosis and provide the appropriate treatment. By the end of the pilot, 11,900 rapid diagnostic tests had been administered in the communities.

Training community health workers to test for HAT is a simple and reliable way to expand life-saving healthcare to communities with limited access to health services, particularly for people living in the most remote and hard to reach locations:

“Supporting community health workers in Central African Republic is meeting the critical health needs of people who have been displaced and affected by violence and conflict in the country. Including

HAT diagnoses with what community health workers already deliver in terms of diagnosing and treating diseases such as malaria, diarrhoea and malnutrition, shows their increasing capacity to provide care in the most challenging conditions.” – Karbore Issake Eloi, MENTOR base coordinator.

HAT, also known as sleeping sickness, is a vector-borne parasitic disease transmitted by tsetse flies. It is often asymptomatic until later stages when severe complications develop, at which stage survival rates are very low. Early diagnosis and treatment are therefore essential to avoid mortality attributed to HAT. Addressing these challenges in Central African Republic is essential to ensure the country eliminates this disease by 2030.

Mass drug administration campaigns targeting onchocerciasis (also known as ‘river blindness’) and lymphatic filariasis were implemented in **South Sudan** in early June 2023. These two Neglected Tropical Diseases (NTDs) are among the five endemic NTDs that respond to Preventive Chemotherapy (PC-NTDs).

MENTOR and the NTD Department of the South Sudanese Ministry of Health delivered the campaign, which aimed to protect and treat thousands of people at risk from these diseases.

The campaign covered seven counties in South Sudan, some of which are endemic for onchocerciasis, lymphatic filariasis, or for both diseases. It was implemented in areas bordering Ethiopia as part of a cross-border elimination programme. In Maban County, the campaign also reached many refugees in addition to the host population.

Despite political and security challenges since the conflict began here in 2013, the Ministry of Health has worked diligently to scale-up NTD treatment where resources and security allow. In 2022, 100% geographical coverage was achieved for the first time in 64 counties where these two NTDs are endemic, which is a great achievement for the MoH in moving closer to elimination.

In **Venezuela**, the ongoing social and humanitarian crisis has led to one of the biggest migration movements the world has seen before. Those that remain tend to be at most risk for diseases such as the very young and older people and have limited access to basic services like clean water and sanitation. Several vector-borne diseases thrive in these environments such as dengue fever, leishmaniasis and chagas disease.

MENTOR started supporting community health services and improving hygiene and sanitation in five states at the end of 2021. Hygiene promotion activities in communities that raise awareness about the importance of personal and environmental hygiene practices to prevent vector-borne neglected tropical diseases reached 14,809 people in 2023.

In the same year, supported community health workers carried out 196,171 house-to-house visits to increase awareness of disease prevention, vector control and hygiene. Working in schools we also trained 466 teachers in good handwashing technique and hygiene promotion and trained 945 school children to improve hygiene practices.

## Ending Neglected Tropical Diseases in Angola

The four main Neglected Tropical Diseases responding to Preventive Chemotherapy in Angola, onchocerciasis, lymphatic filariasis, schistosomiasis and soil-transmitted helminthiasis cause harm and suffering to millions of people.

NTDs represent a greater burden of diseases in public health, threatening the socio-economic development of the country. NTDs limit the productivity of people affected, aggravating the disease and poverty cycle. They are related to poor hygiene and sanitation, climate and reduced access to drinking water.

MENTOR supports mass drug administrations (MDAs) for the elimination of the forementioned NTDs at schools and within communities, a strategy proven to interrupt disease transmission and reduce morbidity in endemic areas. By delivering essential medicines through preventive chemotherapy without individual diagnosis, MDAs aim to achieve



A child in Angola is treated for NTDs as part of a mass drug administration campaign that delivered over 5.2 million treatments overall in 2023.

high coverage.

In March 2023, due to the WHO appeal to scale-up schistosomiasis treatments to age groups and populations outside of schools, a new Mass Drug Administration strategy was implemented for children and adults at the community level.

It integrated treatments for schistosomiasis, soil-transmitted helminths, lymphatic filariasis and onchocerciasis into the same campaign to protect as many people as possible from these harmful diseases.

During 2023, MENTOR supported the Angolan Ministry of Health to distribute treatments in 8 out of 18 provinces. In total:

- Treatments delivered for schistosomiasis: **2,276,422;**
- Treatments for onchocerciasis: **1,600,540;**
- Treatments for soil-transmitted helminths: **794,472;**
- Treatments for lymphatic filariasis: **576,672.**



South Sudan Ministry of Health supervisor delivering training ahead of a mass drug administration against onchocerciasis and lymphatic filariasis.





Improving water, sanitation and hygiene in South Sudan is helping prevent the spread of faecal-oral diseases.

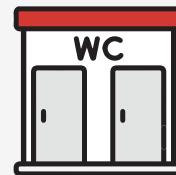
## Water, Sanitation and Hygiene

Water, sanitation and hygiene activities were integral to our work in 2023 to reduce the transmission and spread of vector-borne and neglected tropical diseases.



**35**  
boreholes  
rehabilitated

**45,561**  
people impacted



**10,312**  
latrines / showers  
rehabilitated

**30,689**  
people impacted



**24,438**  
new tippy taps /  
handwashing stations

**427,818**  
people impacted





94

villages supported by  
community-led total sanitation

77,738

people impacted



34

villages declared open  
defecation free

By addressing the faecal-oral route of transmission and reducing breeding sites for multiple disease vectors, MENTOR activities helped create healthier environments to prevent the spread of diseases.

Good waste management is essential to maintain a clean and healthy environment and reduce mosquito breeding sites. Waste management strategies promote safe disposal practices and removal of waste, in partnership with local stakeholders. Activities focus on raising awareness, training local health workers, and establishing waste collection and disposal systems.

In **Venezuela**, where people are at high risk of dengue in urban areas, MENTOR supported 58 waste management campaigns in communities in 2023. Groups of people were mobilised to clear waste and remove items that provide the perfect breeding sites for the *Aedes* mosquito.

Dengue, a viral infection transmitted through the bite of infected *Aedes* mosquito that can cause a flu-like illness or in more serious cases is lethal, is endemic in most of Venezuela. Water stored in open containers provides the ideal breeding site, increasing the number of mosquitoes and the risk of being bitten and infected.

To help control the high rates of dengue, MENTOR distributed 21,705 water storage items such as lids and containers in 2023. We also trained 684 *Aedes* Prevention Assistants to provide information within communities about reducing the spread of dengue.

Community-led total sanitation is a key strategy in **South Sudan** to address the risks of faecal-oral diseases from poor sanitation. Activities that empower and engage communities to create local solutions for improved sanitation and hygiene were carried out in 94 villages in 2023, impacting 77,738 people.

The goal of this community-led approach is to end open defecation and in 2023 this practice was

declared to have ended in 34 villages, significantly improving sanitation, hygiene and overall health as part of a programme supported by UNICEF.

Community-led total sanitation facilitates communities to analyse their own sanitation practices and faecal-oral pathways. Called 'Triggering' this process aims to initiate the community's desire for collective change and action. Encouraging mutual support and local solutions have led to greater ownership and sustainability of WASH infrastructures

### Water and sanitation helping to save lives in Mozambique

In Cabo Delgado Province, **Mozambique** more than 800,000 people have fled their homes because of armed conflict affecting this region since 2017. According to the International Organization for Migration's (IOM) Displacement Tracking Matrix, data collected in July 2023 showed an estimated 668,939 internally displaced people were identified as living in both host communities and in camps.

Poor living conditions and sanitation in the camps creates a higher risk of diarrhoeal diseases such as cholera. To address the risk of dangerous outbreaks, MENTOR and the Provincial Health Directorate delivered training to 190 Hygiene Promoters from internally displaced person camps and host communities across six districts.

Much of the infrastructure, including schools, was also destroyed during the conflict creating an increased risk of diarrhoeal diseases amongst pupils from these internally displaced communities.

Most schools affected by the conflict lack basic services such as access to water, sanitation facilities and handwashing stations. Handwashing is one of the most useful methods to reduce the burden of diarrhoeal diseases and children that practice



Tippy taps in communities affected by conflict in northern Mozambique improve handwashing and reduce the risk of diseases.

regular handwashing are less likely to suffer from these diseases.

To improve water, hygiene and sanitation in schools and prevent the diseases that lead to high absenteeism, MENTOR started to rehabilitate and construct boreholes, rainwater harvesting systems and latrines along with promoting hygiene in 53 schools in four districts of the province. The programme was delivered as part of the Safe and Inclusive Learning Consortium with Save the Children.

MENTOR also distributed inclusive tippy taps to 50 schools in the region, improving access to handwashing for more than 37,000 school children. The tippy taps, a simple type of handwashing station that minimises the amount of water needed, were adapted for children in wheelchairs or those less able.

Raising awareness of diarrhoea prevention and the importance of handwashing was highlighted as part of Global Handwashing Day on 15 October. Schools and communities from six districts in Cabo Delgado came together to celebrate and watch demonstrations on tippy tap construction and safe handwashing.

Information, education and communication activities about handwashing were carried out with more than 4,200 students and community members, organised by the district education and health authorities, and supported by MENTOR.

Overall, 14,107 tippy tap handwashing stations were installed in schools and communities impacting 344,262 people in 2023. The number of people impacted by new or rehabilitated boreholes was 17,489.

### Cholera

A cholera outbreak was declared in the city of Pemba, Cabo Delgado Province in 2023, leading to an emergency response by MENTOR and the health authorities. This outbreak followed the other already affected provinces of Niassa, Zambezia, Tete, Manica, Sofala, Inhambane and Gaza and the neighbouring country of Malawi, which experienced the deadliest cholera epidemic in decades with more than 1,200 deaths.

MENTOR coordinated the cholera response with the Provincial Health Directorate and other health cluster partners, providing Personal Protective Equipment; tanks, water and soap; and cholera prevention and hygiene promotion activities. Supported by USAID's Bureau for Humanitarian Assistance (BHA).

Cholera, an acute diarrheal disease, is caused by a bacterial infection mainly linked to inadequate sanitation and insufficient access to safe drinking water. Unfortunately, it can kill within hours if left untreated.





Trained municipal focal points are contributing to improved malaria surveillance in Angola.



# Monitoring and Evaluation

Monitoring and evaluation activities in 2023 enabled MENTOR to assess the effectiveness of interventions and track progress towards programme goals. They also provided significant value to support Ministries of Health to make informed, data-driven decisions that improve health outcomes.



6

surveys conducted



3

health information systems supported





We worked closely with local health authorities and partners to develop and improve disease surveillance systems to enable the timely detection, reporting and tracking of cases, monitor disease trends and evaluate the impact of interventions.

Knowledge, attitude and practice (KAP) surveys carried out provided insights into community perceptions and behaviours around disease prevention and treatment, helping to tailor interventions and measure the impact of health education programmes.

In **Nigeria** baseline and endline KAP surveys measured the impact of the community-based information, education and communication campaigns on knowledge and behaviour related to malaria and diarrhoeal diseases. The surveys focused on key disease prevention behaviours and understanding of malaria and its vectors. Households were randomly selected for surveys in Monguno, Maiduguri and Jere in Borno State.

Entomological surveillance to evaluate effectiveness of indoor residual spraying (IRS) campaign through Pyrethrum Spray Collection (PSC) was carried out in Gongulung and Zabarmari. One round of PSC pre-spraying in the month of April and seven rounds (May-November) were carried out post-spraying.

The IRS (intervention) villages selected in these two areas were Goniri, Lawanti, Bololo and Tamsuwa while the control villages were Mandawari, Kwana Mutuwa, Mala Shara Munbulin and Layin Dabino. The number of mosquitoes collected both in pre and post IRS was much lower in the sprayed than in the unsprayed community, indicating the effectiveness of IRS. Reduced numbers of blood-fed mosquitoes mean reduced biting, which indicates a reduction in

malaria transmission.

Entomological surveys were carried out in **Venezuela** in May 2023 to assess the impact of activities on the presence of larvae in households. There was a reduction in all Aedic indexes (house index, pupae per house, container index and Breteau index) in the surveyed communities from the base line from 2022 to the endline conducted in 2023. For the pupae per house index, there was a reduction in all states (five states) from 122,42 in the baseline to 51,81 at the endline.

Entomological mapping of Margarita Island to understand potential opportunities for future projects was also carried out. Islands are considered special places, where elimination strategies can be used with stronger results. Moving from targeting a specific vector and a specific disease, e.g. *Aedes aegypti*-dengue, an integrated vector management approach can lead to a better use of resources and have a greater impact in the communities.

During vector-mapping on the island, relevant information was discovered that is significant to public health. The presence of *Triatoma maculata*, a Chagas disease vector, was found with a suspected presence of *Trypanosoma cruzi* in the faeces. The presence of multiple malaria vectors was also reported on the island, suggesting a multifaceted patten of malaria transmission.

MENTOR supported the National Malaria Control Programme (NMCP) and local governments in two provinces of **Angola** to improve the quality and coverage of data and accelerate efforts to reduce transmission, after malaria cases started to decline significantly in this region two years ago.

This support came at a crucial point because low malaria transmission in southern Angola faces a serious risk of reverting to previous high rates if progress made in case management and surveillance is not maintained. A reduction in activities also puts malaria elimination efforts in neighbouring countries at risk.

With case transmission declining, improved data quality, and stable reporting rates, the transition to active surveillance became essential to the elimination ambitions for the region, particularly in areas bordering countries like Namibia.

Malaria surveillance is key to improve regional progress towards malaria elimination. Active surveillance, including case line listing, was initiated in border municipalities targeting health facilities that had an average of fewer than five cases per month over the past three years and maintained a consistent reporting rate.

The improvements were evident when looking to DHIS2 reporting rates. Since the start of the implementation of malaria surveillance activities in 2018, the supported municipalities increased their reporting rates substantially. Six out of seven municipalities have achieved more than 90% of reporting rates when in 2020 only one municipality achieved this target (and the remaining six had rates ranging from 0 to 64,6%)

At the same time, the team collaborated with Saudigitus to create a case-based tracker within DHIS2, that has now been integrated into the Angola National Information system (SIS Angola) and will enhance data quality.

In September 2023, a training session and pilot

Interviews to collect information about malaria behaviours took place over two months across Zaire, Cuanza Norte and Lunda Sul Provinces, Angola.





Basic entomology training with municipal focal points in southern Angolan as part of a programme aimed at improving surveillance and accelerating efforts to reduce malaria transmission.

programme involving technicians from 42 health facilities and corresponding municipal and provincial teams took place in Cunene and Cuando Cubango Provinces. Representatives from Studies, Planning and Statistics Office (GEPE) of Ministry of Health (MoH) and NMCP led the training, equipping health facilities with the necessary resources for case listing, classification, investigation, and initiating reactive case detection and foci investigation.

“The fight against malaria in the south with focus in elimination activities is important to facilitate regional progress towards disease elimination. The MENTOR Initiative has been working with us, MoH and NMCP to provide support to vector control, entomology, case management and data interventions with clear improvements throughout the past two years. Going forward with this approach in our region, we are committed to work sustainability so that in the future we can say this initiative worked.” - André José Domingos, Angola Ministry of Health Malaria Provincial Focal Point.

### Malaria behaviour survey

A survey to understand the behaviours and perceptions of the general population towards malaria prevention, treatment, risks, and consequences was carried out in three provinces of Angola from March to April 2023.

MENTOR supported the implementation of the survey over a period of five weeks, during which teams interviewed 3,148 families, 3,476 women, and 785 men in Luanda Sul, Cuanza-Norte, and Zaire Provinces.

The survey was carried out in partnership with the National Malaria Control Program (NMCP) and funded by USAID/PMI through Breakthrough ACTION.

Dr. Fatima, IEC Coordinator of the NMCP, said, “This study is of great importance for Angola and

the NMCP. The data collected on people’s behavior and perceptions will help to adapt strategies for the prevention, control, and elimination of malaria.

“This study was a great personal learning experience. It was also an opportunity for the country to show and prove that it can do qualitative studies. Thanks to MENTOR and Breakthrough ACTION, which worked with us from day one to do the study.”

Results from this survey are supporting Angola NMCP to better tailor public health interventions to control malaria based on the knowledge and practices gaps identified.

### Community surveys in Syria

Baseline and endline knowledge, attitude and practice (KAP) surveys were conducted to understand the impact of MENTOR’s interventions on the community’s awareness and practices related to leishmaniasis. The surveys targeted communities in north-west and north-east Syria, across Aleppo, Idlib, Al-Hassakeh, Deir-ez-Zor, and Ar-Raqqa Governorates.

The survey revealed key insights into the community’s knowledge and practices regarding leishmaniasis. Awareness of the disease was nearly universal, with 99.7% of respondents recognising it from pictures. Knowledge of sandflies as transmitters improved, rising from 41.5% to 51.8%, and confidence in disease prevention and control grew from 89.7% to 100%.

There was a significant increase in the acceptance of house spraying for prevention, up from 70.2% to 95%. Satisfaction with medical services remained high, with 100% of respondents willing to seek treatment at health facilities. The impact of IEC activities was evident, leading to greater awareness and education about leishmaniasis.



A member of the study team explaining the field evaluation trial to a potential participant in an IDP camp in Maiduguri, Nigeria.

## Operational Research

Vector-borne diseases are a critical global health issue, contributing to 17% of all infectious diseases. Malaria, the deadliest among these, causes over 400,000 deaths annually, predominantly affecting children under five who lack immunity. The World Health Organization reported there were an estimated 249 million malaria cases and 608,000 deaths from malaria in 2022. (*World malaria report 2023*)



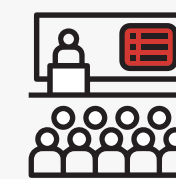
3

ongoing studies



2

research papers published



7

presentations at international conferences





Collecting mosquito samples as part of a trial assessing the effectiveness of vector-control tools in IDP camps in northern Nigeria.

Dengue fever is also on the rise, with an estimated 100-400 million virus infections each year (WHO). While other arboviruses like Zika and chikungunya have lower fatality rates, they can lead to severe symptoms and prolonged recovery due to the absence of a curative treatment. These diseases can cause significant long-term disability and loss of autonomy.

Fragile environments, conflict, and violence exacerbate health challenges and hinder efforts to address extreme poverty and high rates of disease. By the end of 2023, the UNHCR reported that over 117.3 million people were forcibly displaced due to conflict, war, famine, natural disasters, and political pressures, with over a quarter being refugees. Many of these individuals live in countries with the highest risk of vector-borne and communicable diseases.

Internally Displaced Persons (IDPs) and those in conflict-affected areas face heightened risks of these diseases due to increased exposure to vectors and living conditions that facilitate their breeding. Inadequate infrastructure, poor waste management, and limited access to healthcare further increase the risks often leading to more severe disease outcomes.

Researching new disease control tools in emergency settings is a key strategy to effectively protect people from multiple disease-carrying vectors. Studies of innovative new tools in 2023 such as spatial repellents were a progression of earlier trials in Yemen and Syria.

A study in camp and urban settings in Syria of the first-generation spatial repellent tool between February 2021 and April 2022 found a 48% reduction in leishmaniasis using the tool and managing water sources. The incidence rate of cutaneous leishmaniasis was 9.9 per 1,000 cases in the control arm and 5.2 per 1,000 in the intervention arm.

In Yemen a field evaluation trial assessed the impact

of a long-lasting spatial repellent on the vector population and a larviciding disk that released pyriproxyfen into water inhibiting the emergence of adult vectors. Initial analysis of the results from the trial in Internally Displaced Person camps show a 75% reduction in disease-transmitting vectors such as *Aedes aegypti*.

The addition of new tools aims to enhance the toolkit and address the factors contributing to a rise in vector-borne diseases such as climate change and population movement. MENTOR is working with partners to advocate for new tools to be used alongside existing one's such as indoor residual spraying and nets when trying to control invasive vectors. These core vector control tools work well for some vectors of malaria but cannot control either urban malaria vectors or the vector that transmits dengue.

These bite when people are often not yet inside houses or asleep. So spatial repellents to push adult mosquitoes out of houses, and long-lasting larvicides to control mosquito at aquatic stages, are vital to fill this gap in urban settings where many millions are at risk of diseases transmitted by rapidly spreading invasive mosquitoes.

In 2023 our operational research programme focussed mainly on vector control, disease management, strengthening health systems and community engagement.

The MENTOR team also participated in presentations at international conferences to share learning and showcased our work in entomological surveillance, improving clinical case management and water, sanitation and hygiene interventions in emergency settings.

### Field trials in Borno State, Nigeria

A seven-month entomological and epidemiological study in 24 Internally Displaced Person (IDP) camps

in Maiduguri, northern Nigeria aimed to assess the effect of a long-lasting spatial repellent, known commercially as Guardian™ on *Anopheles* and *Aedes* mosquitoes, which transmit malaria and dengue respectively.

Guardian™ is the second-generation spatial repellent manufactured by SC Johnson and follows the first version trialled in Yemen and Syria.

The core part of the research involved monthly rapid diagnostic testing to monitor rates of malaria in a cohort of 1,500 children aged 6 to 10 years. This monitoring tested the effectiveness of the spatial repellent, with the aim to reduce the number of potentially disease-carrying vectors in the household.

Initial results have contributed to the development of a new field evaluation trial in Maiduguri in 2024 to assess the impact of novel tools in humanitarian crisis settings: Sumilarv 2MR and attractive toxic sugar bait (ATSB®) stations. Liverpool School of Tropical Medicine (LSTM) is partnering with MENTOR in the project design and analyses of collected samples.

Nigeria has an abundance of the *Aedes aegypti* mosquitoes which are known to transmit dengue, Zika, as well as chikungunya and yellow fever. During the entomological activities conducted by MENTOR in 2023, 1,062 samples of *Aedes aegypti* mosquitoes were identified during the seven months of monitoring in Maiduguri.

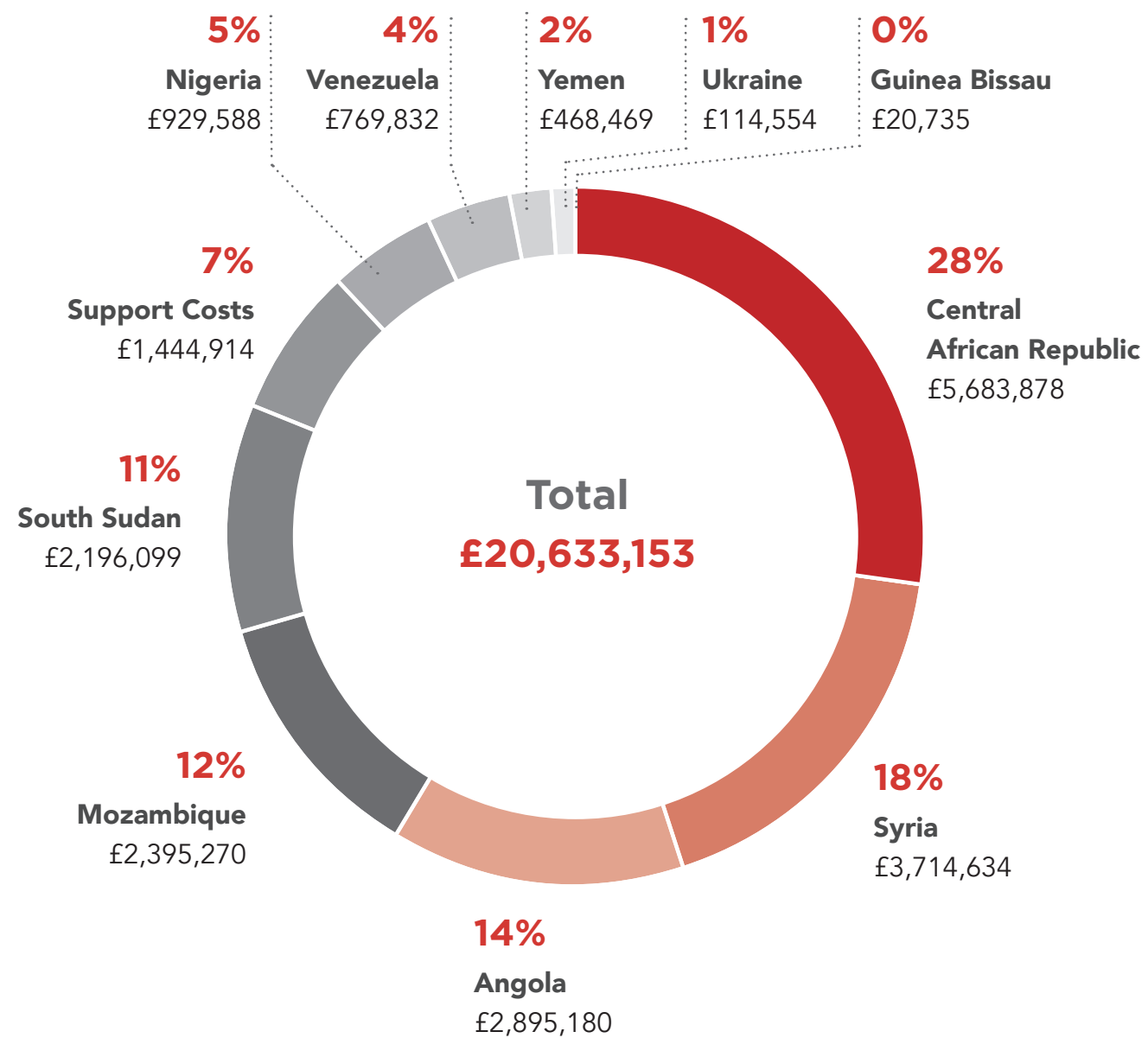
Morphological examination revealed that 50% of female *Ae. aegypti* were blood-fed. These findings highlight the need and the opportunity to tackle *Aedes* mosquitoes and assess *Aedes* transmitted diseases in this area. By extending our research activities in Nigeria to control *Aedes* in temporary shelters located in challenging, harsh settings MENTOR aims to apply successful results in similar crises and protect communities from diseases such as dengue, chikungunya and yellow fever.



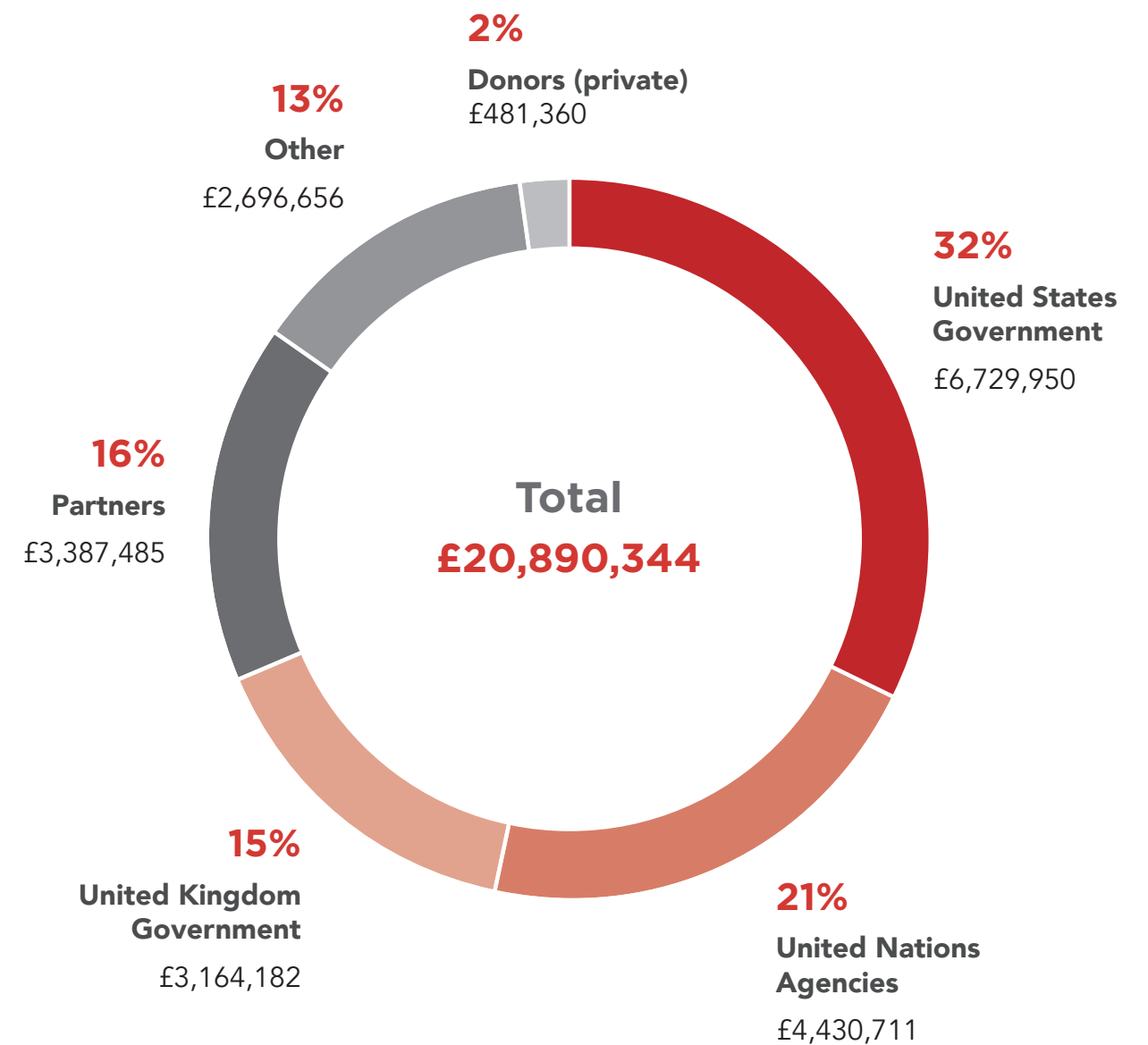
# Financial Information

For year ending 30 September 2023

## Expenditure



## Income





# Donors and Partners

**Thank you to all our donors, partners and others who have contributed to our programmes in 2023, including:**

Aid Fund for Northern Syria (AFNS)  
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### **The MENTOR Initiative**

4<sup>th</sup> Floor (South Suite)  
Burns House  
Harlands Road  
RH16 1PG  
United Kingdom

**[www.mentor-initiative.org](http://www.mentor-initiative.org)**

Email: [info@mentor-initiative.org](mailto:info@mentor-initiative.org)

Follow us on LinkedIn.

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