



# ANNUAL REPORT 2021/22

#### **LIST OF ACRONYMS**

ALB	Albendazole
CDC	Centers for Disease Control and Prevention
CES	Coverage Evaluation Survey
CHAD	Centre for Health, Agriculture, Development Research and Consulting
EPHI	Ethiopian Public Health Institute
EPHP	Elimination as a public health problem
FMoH	Federal Ministry of Health
FGS	Female Genital Schistosomiasis
FIG	FGS Integration Group
M&E	Monitoring and Evaluation
MDA	Mass Drug Administration
МоН	Ministry/ies of Health
MORBID	Morbidity Operational Research for Bilharziasis Implementation Decisions
NGO	Non Governmental Organisation
NNN	NTD NGO Network
NTDs	Neglected Tropical Diseases
PZQ	Praziquantel
SAC	School-age children
SCIF	SCI Foundation
SCH	Schistosomiasis
SCORE	Schistosomiasis Consortium for Operational Research and Evaluation
SNNPR	Southern Nations, Nationalities, and People's Region
SRHR	Sexual and reproductive health and rights
SOS	Schistosomiasis Oversampling Study
STH	Soil-transmitted helminthiasis
WASH	Water, sanitation and hygiene

Cover: Children enjoy the Nile riverfront in Buwaiswa, Uganda, a community participating in the pilot project described on Page 9 SCI Foundation/Malaika Media

World Health Organization

WHO

#### 2021/22 AT A GLANCE





Schistosomiasis and soil-transmitted helminthiasis treatments provided



School-aged children (5-14 years) Adults and adolescents (≥15 years)



# FOREWORD



This year's annual report is published while we celebrate two important and exciting milestones: 20 years since we were first established as the Schistosomiasis Control Initiative; and the delivery of the billionth treatment enabled by the

support of our organisation. As we work through the final year of our current five-year strategy, this provides us with the opportunity to take stock of our achievements while planning how we can enhance our work to respond to the health inequities facing the world today.

This report recognises progress made against each component of our operational approach. Firstly, it celebrates our **partnership** with over 27 countries, their ministries of health and research institutions over the years as a fundamental pillar of our work and achievements. This strong partnership secured the delivery of over 63 million treatments this year alone.

Improving our operational excellence remains very important to us, demonstrated this year by our exciting accreditation as Investors in People; and while innovation has always been a strength for SCI Foundation, we continue to push our boundaries, finding ways to improve targeting of treatments and exploring the broader benefits of schistosomiasis elimination efforts. We are particularly proud of our strong contribution to the development of global guidance for elimination of neglected tropical diseases (NTDs) as part of the drive for sustainability and health systems strengthening. This contribution is highlighted throughout the report, and is enabled by our determination to continue to be an evidenced-based organisation.

In the process of developing our new five-year strategy, we will be guided by the changes taking place across the global health and development community, as well as in society and the planet as a whole. As a first step, we have reviewed and redefined our values: equity, transparency and inclusivity.

Our values will be central to our forthcoming strategy and affect everything, from our governance structure and composition, to how we raise and disburse our resources, and the way in which we partner on programme delivery. This will help ensure our strategy is aligned with the 10-year NTDs road map released in January 2021 by the World Health Organization (WHO), as well as with the Sustainable Development Goals and the drive for Universal Health Coverage.

#### **Our values**

- Equity: We challenge inequity and strive towards a fair distribution of power and resources globally. We understand that ill health is rooted in social and economic inequity and injustice.
- Transparency: We are transparent in our decision making and our actions and ensure that decisions are informed by credible evidence. We acknowledge the fundamental role of transparency in engendering trust, collaboration, and accountability.
- Inclusivity: We respect people's differences, recognising the importance of different perspectives and experiences, applying the principles of compassion and dignity. We understand that having varied perspectives and experiences is essential to achieving our mission.

The new strategy will also continue and deepen our work on sustaining the impact of treatment, as well as elimination of parasitic infections, in line with the shifting nature of global targets and to ensure that we remain focused on ending disease and inequities. This shift, in turn, will have important implications for our operational and funding models.

On a final note, I, and the rest of the SCI Foundation team, wish to dedicate this report to the memory of Dr Mwelecele Ntuli Malecela, Director of the Department for the Control of Neglected Tropical Diseases at the WHO, and Observer to the Foundation's Board of Trustees, who sadly passed away at the start of 2022. Dr Malecela's loss will be keenly felt for many years to come, but her tremendous legacy of leadership, humility and excellence will continue to accompany our organisation into the future.

#### Dr Wendy Harrison

**Chief Executive Officer** 

# **PARTNERSHIP** KEEPING PARTNERSHIP AT THE HEART OF OUR WORK

Our approach to programming is to work in partnership with national governments and local organisations in each country. We do not undertake direct implementation, but rather provide technical and financial support as a catalyst for delivering evidence-based interventions within their own established NTD programmes. Our partnership model ensures programmes are country-led and aligned to the national strategic plans, goals and objectives of the ministries of health (MoH).

### Our partnership with ministries of health

We place great emphasis on building and maintaining relationships with our partners, and specifically the MoH. Our team of programme advisors works directly with the relevant focal persons within the MoH. We prefer to engage directly with the SCH/STH (or NTD) Programme to ensure the close alignment of our support with their priorities.

When we were established in 2002, we made an active decision not to register offices in endemic countries or employ our own local staff, and we have maintained that ethos since. Our funds are provided to the MoH and we only utilise a fiduciary agency where required for financial accountability or at the request of the MoH.

Our relationship is formalised through contractual agreements to ensure mutual accountability. Additionally, we contract other locally-based organisations, primarily research institutes, to conduct monitoring and evaluation activities on behalf of the NTD Programme. This independence ensures robust data generation that can be used to drive programme adaptation where required, if performance or impact do not meet their indicator targets.

By working in this way, programme leadership remains firmly in the hands of the MoH and programme delivery is undertaken through their own mechanisms. We actively engage in each MoH stakeholder meeting, in addition to annual planning and review meetings throughout the year. This allows us to closely coordinate with other NTD partners in each country to avoid duplication and maximise the use of our collective resources. We liaise with each programme regularly and look forward to visiting more frequently as COVID-19 travel restrictions are lifted.

Our collaborative approach has led to successful partnerships with more than 27 countries over the last 20 years. During that time, we're proud to have supported the delivery of over one billion treatments across those countries.

66 We are very grateful to SCI Foundation for supporting Zanzibar for many years, in fact we take them as very good friends and not just as partners. They have been close to us, providing us with funding, but also with technical support. 99 Dr Fatma Kabole, Head of the Neglected Tropical Diseases Unit, Ministry of Health Social Welfare, Elderly, Gender and Children, Zanzibar.



Dr Tahina (centre) from the MoH answers questions by community health workers while a health worker registers all the equipment needed for the deworming campaign in Madagascar.

SCI Foundation/ END Fund/Viviane Rakotoarivony

### THE SCOPE OF OUR SUPPORT: TREATMENTS DELIVERED

**ETHIOPIA** Schistosomiasis **4,657,001** Soil-transmitted helminthiasis **19,281,288** MALAWI **CÔTE D'IVOIRE** 2,725,558 2,328,781 Soil-transmitted helminthiasis Soil-transmitted helminthiasis 154,679 1,238,442 SUDAN 3.102.114 MADAGASCAR Schistosomiasis 5,968,073 BURUNDI Soil-transmitted helminthiasis LIBERIA Schistosomiasis 3,636,941 1,681,915 489.715 Soil-transmitted helminthiasis 1,753,390 ZANZIBAR NIGER Schistosomiasis Schistosomiasis 1,156,896 10,904,791 UGANDA Soil-transmitted helminthiasis 1.209.560 Lymphatic filariasis 1,187,849 Soil-transmitted helminthiasis SCIF also supported programmes in the Democratic 793,399 Republic of Congo and in Tanzania, although treatment has been delayed until FY22/23 pending drug arrival.

# PARTNERING TO GENERATE EVIDENCE

▲ Nurse Wondimagen Abuye (blue top) asks Badege Alba to confirm his consent to participate in a Parameter Calibration Survey by signing on the mobile device used to enter survey data in Southern Nations, Nationalities, and People's Region (SNNPR), Ethiopia

Together with MoH and other partners, we completed several surveys this fiscal year, including coverage evaluation surveys (CES), impact surveys and reassessment mapping, covering 85,878 people. These surveys have helped to answer critical questions on who received treatment and how to optimise treatment strategies, and have began to fill key knowledge gaps required to fulfil the WHO objectives.

We supported MoH and partners to complete six CES in Burundi, Côte d'Ivoire, Ethiopia, Madagascar, Malawi, and Mauritania, in total covering 13,927 households and 30,554 people. CES are vital to evaluate the effectiveness and reach of treatment campaigns, ensuring every person has equal and continued access to treatment. A recommendation report is created with the MoH for each survey, including a dashboard of results to inform specific programmatic adaptions, e.g. where coverage is below target levels in specific groups and where additional behaviour change communications are required to increase treatment uptake and reach.

In the case of CES, WHO recommends that surveys are conducted by organisations independent of the MoH, allowing for fair and unbiased assessment. Alongside MoH, we have developed partnerships with various academic or research organisations<sup>1</sup> to implement CES, ensuring the production of high quality and actionable data.



<sup>1</sup> All Consulting & Research, (previously BRESDE Consulting) in Burundi, Université Félix Houphouët-Boigny (UFHB) in Côte d'Ivoire, Arba Minch University in Ethiopia and the Centre for Health, Agriculture, Development Research and Consulting (CHAD) in Malawi. In Madagascar and Mauritania, independent survey teams were recruited and supervised by the MoH.

### Sharing our expertise with WHO and global networks



Over the past year, we have continued to support the work of WHO. In February 2022, WHO formally launched the <u>WHO guideline on control and</u> <u>elimination of human</u> <u>schistosomiasis</u>, a document we were invited to co-develop (more on page 14). Several staff

members have joined a new Technical Advisory Group on SCH and STH, which was set up by WHO in November 2021 to address important technical issues including monitoring, environmental prevention, and zoonotic SCH, among others.



We continue to contribute to additional resources for the delivery of the <u>WHO NTD</u> <u>road map 2021-2030</u>. In the past year, this included significant contribution to the development of two companion documents to the road map: <u>One health: approach for</u>

action against neglected tropical diseases 2021-2030, formally launched in January 2022 (more on page 12); and <u>a framework for evaluating road</u> map progress (more on page 13).



We are also in the process of contributing to the development of a monitoring framework for the implementation of the <u>WHO</u> global strategy on water, <u>sanitation and hygiene (WASH)</u> <u>and NTDs</u> (another companion document to the NTD road

map). Building on prior work, we co-led, through the NTD Non-Governmental Organization (NGO) Network (NNN), the update of the toolkit <u>WASH</u> and Health working together – a 'how to' guide for NTD programmes, first launched in 2019, which aims to operationalise the strategy.

#### A public-private partnership in action: The Pediatric Praziquantel Consortium



Our ongoing work as a member of the Pediatric Praziquantel Consortium, a not-for-profit international public private partnership, embodies our practical

commitment to partnership. Within the Consortium, we work closely with a wide range of partners to facilitate collaboration and coordinate efforts to prepare for access and delivery of arpraziquantel, a potential new paediatric treatment for SCH. In the last year, much of this work has centred around implementation of research projects in Kenya, Côte d'Ivoire and Uganda, with a focus on preintervention social science studies, selection of delivery platforms and preparatory work related to the development of advocacy and social mobilisation strategies.

#### FIG – a new Coalition to tackle Female Genital Schistosomiasis (FGS)

Efforts to tackle FGS have gained new momentum this year, with SCIF jointly founding a new coalition of organisations working in the sexual and reproductive health and rights (SRHR), HIV, cervical cancer, NTD and WASH sectors: the FGS Integration Group (FIG). Our long-term goal is to strengthen comprehensive SRHR and NTD programming through the sustainable integration of FGS into health programmes. Activities are expected to increase in the coming year with the development of the FIG strategy and the formal launch of FIG in various forums.



# **OPERATIONAL EXCELLENCE** IMPROVING OUR OPERATIONS

#### Values of the organisation

As an organisation, we strive for continued improvement. Having operated as an independent organisation for over two years, since departing Imperial College London and establishing SCI Foundation, we have taken the opportunity to review some of our core policies and practices. In doing so, we can ensure we align with the current, dynamic environment in which we operate and identify areas for further development.

We have worked to embed our values of equity, transparency and inclusivity in all areas of work, from recruitment of new staff to working with funding partners. In addition, we have developed our travel safety and security policies and procedures and are developing our approach to climate action. We continue to evolve our technical expertise, generating evidence in partnership with our MoH colleagues and other academic institutions. This evidence is used to directly improve programme strategies as well as in the development of global guidance, such as the <u>WHO guideline on</u> <u>control and elimination of human schistosomiasis</u>. Our values must guide not only our work but also the way in which we are funded. In the last year, we have developed ethical frameworks for acceptance of donations and to guide our investments. Additionally, we have continued applying stringent anti money laundering practices.

#### **Investors In People (IIP)**

In July 2021 we were delighted to receive accreditation from IIP. This means that our policies and practices to support staff professional development and to create a productive working environment are embedded throughout the organisation. With only two years of working as an independent organisation at that time, this award validated our commitment to leading, supporting, and managing our talented team.

Our people development practices are reviewed every year. We were therefore thrilled to have increased our scores in every category this year and have identified activities that will allow us to further excel in our next review.



What stories are told – and how they are told – matters. In all our communications, we strive to reflect accurate experiences of the realities faced by communities affected by NTDs, avoiding the perpetuation of negative stereotypes. Our approach is therefore rooted in community-led stories, recognising those involved as our partners in the process of sharing their own experiences. Although the team is stringent when it comes to informed consent, the cornerstone of ethical good practice, our ethical considerations go much further. We choose to work with local talent who understand the cultural context and can speak the same language as the contributors, thereby mitigating some of the power imbalances that can be at play.

This year we have commissioned local photographers and videographers to document our work in Côte d'Ivoire, Ethiopia and Uganda.

SCI Foundation worked with visual artist Nuits Balnéaires (Aka Aboubakhr Thierry Kouame) to document work in Côte d'Ivoire. Of this collaboration, he said: "It's very important to use a more optimistic lens to illustrate the challenges we face here."

# **INNOVATION** OPTIMISING OUR EFFORTS TO GENERATE EVIDENCE



A Betty Babyerabira is a community member in Kamuli District, Eastern Uganda, who took part in the project.

#### Piloting a community-led approach in Uganda

Low access to quality reliable water supply and sanitation services sustains the transmission of SCH, including in areas where mass drug administration (MDA) has been implemented regularly. We can play an important role in both enhancing the effectiveness of WASH interventions for disease prevention, and the targeting of such interventions to highprevalence areas, as part of our technical collaboration with MoH.

This year, we co-led the development of a one-year pilot project starting in July 2021, which intends to develop and test an approach to community-driven planning of environmental and behavioural action to reduce the risk of SCH transmission. The project is a collaboration between SCIF, the Uganda MoH, RANAS (a Swiss-based behaviour change communications agency) and local partners. It is being delivered in three communities with a high prevalence of SCH infection in Kamuli district, Eastern Uganda.

The project is comprised of three phases:

- Participatory appraisal to identify the root causes of the risk of SCH transmission in the community
- Community action planning to identify basic measures to protect community members from infection
- Joint planning with local water and sanitation authorities to

increase accountability of service providers and improve access to water and sanitation services and infrastructure.

The pilot project will test approaches and methods designed to enhance community innovation and participation in health protection measures, and provide insights for further collaboration between SCIF and MoH partners for disease prevention. It is the first project of its kind for us.

Work is under way to raise resources for the interventions emerging from the local planning process, as well as to scale up the approach in other endemic communities.

#### BETTER TARGETING OF INTERVENTIONS THROUGH PRECISION MAPPING IN ETHIOPIA



▲ Nurse Wondimagegn Abuye (right) sprays sanitiser on the hands of children who provided stool samples as part of a Parameter Calibration Survey in Kuka Kebele, SNNPR, Ethiopia

To enable more precise and efficient targeting of resources to at-risk populations, four of the twelve endemic regions in Ethiopia were reassessed for the distribution of SCH and STH at the kebele (sub-district) level. To achieve this, we used an innovative geostatistical approach to survey design and analysis. Geostatistical analysis lets us calculate the probability that prevalence exceeds a specified value for any 5km by 5km area within the survey range. This approach required the participation of only 200,000 school-age children (SAC) across all endemic regions compared to 1,200,000 using traditional survey methods. In these four regions, 80% of the schools surveyed had zero prevalence of SCH, while 8% had a prevalence of 10%-50% and 4% had a high prevalence of over 50%. For STH, nearly half of the schools (47%) surveyed had zero prevalence, 18% had 20%-50% prevalence and 13% had over

50% prevalence. Of the participants included, 43% were female and there were no significant differences in prevalence of either infection between males and females.

The WHO has set a target of elimination as a public health problem (EPHP)<sup>2</sup> by 2030 for SCH and STH. In Ethiopia, this target has been met in 98% of locations for SCH and in all locations for STH. Compared with baseline data, these observations demonstrate the impact of the national programme by showing an overall reduction in prevalence and intensity over time.

To aid the Federal Ministry of Health (FMoH) in their planning, the results of the survey will be used to classify sub-districts into prevalence categories for both SCH and STH, in line with WHO guidelines. These sub-district data will then be used in regional workshops led by the FMoH to determine the target populations, assign treatment strategies and additional interventions, and estimate budgets for implementation with more precision than in previous years.

Further analysis of these data from the four regions is being conducted to determine areas of persistent infection, which will require bi-annual treatment for SCH.

This work is led by the FMoH and the Ethiopian Public Health Institute (EPHI) with technical support from SCIF and the London School of Hygiene and Tropical Medicine, and financial support through the END Fund's Deworming Innovation Fund (an Audacious Project grant). Data collection has been completed in a further four regions and planning for data collection has commenced in the final four regions.

2 Elimination as a public health problem is defined as reducing the proportion of people with heavy intensity SCH infections to <1%, and the proportion of people with moderate/heavy intensity STH infections to <2%.

### A protocol for rapid mapping of pork tapeworm in Uganda to identify target areas for treatment

Porcine cysticercosis is an infection caused by ingesting pork tapeworm (*Taenia solium*) eggs typically found in areas with inadequate sanitation. It is the leading cause of preventable epilepsy in endemic countries. Praziquantel (PZQ), which treats SCH, is also active against this parasite, offering potential for a coordinated approach.

While the WHO NTD road map includes milestones on achieving intensified control of *T. solium* in hyperendemic areas, limited mapping of *T. solium* infections, especially sub-national mapping, is a major barrier to achieving the road map objectives.

As part of our <u>T. solium modelling project in</u> <u>Uganda</u>, we developed a tool using simplified spatial statistics to map *T. solium* porcine cysticercosis risk based on readily-available data (such as Demographic and Health Surveys and literature-based infection estimates). The tool can inform targeting of *T. solium* interventions, both in co-endemic areas where taenicides are already used (e.g., PZQ for SCH control) and areas where *T. solium* is endemic in isolation. Identifying coendemic areas could also inform safety aspects of SCH control programmes.

#### **PORCINE CYSTICERCOSIS RISK**



Lakes and rivers
 Not high-risk

- Poor sanitation & high pig density
- High poverty & high pig density
- Poor sanitation, high poverty & pig density

Informed porcine cysticercosis prevalence

• 0-9.99% • 10-24.99% • >25%

#### Schistosomiasis Oversampling Study (SOS) informs the optimal sampling strategy

Throughout sub-Saharan Africa, most SCH-endemic countries have successfully scaled-up treatment with PZQ through schools or in the community. Surveys are now needed to evaluate the impact of the interventions to ensure that resources are being directed to the areas of greatest need. But given the highly focal nature of SCH, what is the optimal sampling approach to assess disease prevalence and enable treatment decisions at a more focal level?

Recognising this urgent gap, the WHO set up a technical working group, with SCIF as a key member, to evaluate multiple sampling strategies. This group

determined the critical need for a precise understanding of the underlying prevalence of SCH in different settings in which the sampling strategies could be compared. Consequently, SOS was developed as a large multi-country evaluation in four countries selected for their different transmission 'archetypes' (typical transmission settings). The aim of SOS is to provide a detailed epidemiological understanding of the distribution of two SCH species: Schistosoma haematobium and S. mansoni in SAC after multiple rounds of treatment. The prevalence data can be used in geostatistical models to create prevalence

surfaces, which can then be used to evaluate different sampling strategies and ultimately to select an approach that is optimal for SCH programme decision making by MoH.

This year, the first survey was conducted in Ghana, with Côte d'Ivoire, Mali and Togo to be completed in 2022. SOS is a collaboration between SCIF, London School of Hygiene and Tropical Medicine, Kenya Medical Research Institute, Swiss Tropical Public Health Institute and the Task Force for Global Health, with funding from the United States Agency for International Development and the Bill and Melinda Gates Foundation.

# SUSTAINABILITY

STRENGTHENING HEALTH SYSTEMS TO DELIVER RESULTS

▲ This artificial dam in Keranso, Ethiopia, traps water from the previous rainy season that is used by the local community for washing clothes, bathing, swimming and watering cattle. The pond is also home to freshwater snails that transmit SCH.

Our approach to sustainability has always been a cornerstone of our operating model. By working directly with MoH colleagues in endemic countries we have been able to develop long-term partnerships that support the delivery of high-quality programmes against SCH and STH. Programming that responds to national programme requirements, builds more resilient health systems, promotes closer collaboration with other sectors and reduces the reliance of external funding, all of which contributes to sustainable outcomes. In addition, we are working with endemic countries to explore funding opportunities that support country leadership and allow funding decision-making to be made in alignment with endemic country priorities.

#### Supporting global guidance on a One Health approach to NTDs

The NTD road map describes the critical role of <u>One Health in achieving and sustaining</u> <u>disease control</u>, elimination and eradication targets. This is especially important for SCH control as the disease transmission cycle involves both an animal intermediate host and environmental exposure risks. There is also emerging evidence of human schistosome species cross breeding with bovine species.

In response, as part of our role within the NNN's One Health Cross-Cutting Group, we collaborated with the WHO Department for the Control of NTDs to develop a <u>One Health companion document</u> to the road map, which aims to support a range of stakeholders – including NTD-endemic countries, international organisations and non-State actors – to achieve the road map targets through a transdisciplinary, cross-cutting One Health approach.

SCI

The document was published on World NTD Day, January 2022, with a launch webinar attracting over 900 participants from 106 different countries.<sup>3</sup>

3 Available on YouTube https://youtu.be/v0hg73dgtiE.

#### **Contributing to the WHO Monitoring and Evaluation Framework**

In 2021, WHO released its monitoring and evaluation (M&E) framework for the NTD road map to track progress towards agreed goals whilst providing feedback and guidance to NTD programmes. It endorses three principles: (i) orientation towards impact, requiring measures of public health outcomes; (ii) an integrated holistic approach, comprising overarching and cross-cutting indicators; and (iii) country ownership, requiring alignment of M&E systems with national policies.

The framework will enable monitoring through qualitative

and quantitative measures, with data collected from national NTD and multi-sectoral programmes to report on disease-specific, overarching, and cross-cutting targets. Evidence will be reviewed through disease-specific highlevel group discussions, with experts judging overall progress and outlining strategic guidance.

Having participated in the process of developing both the road map and the M&E Framework, we are committed to continue supporting its implementation in coming years. The sustainability of our operations is strengthened by the compatibility between the WHO M&E framework and our own. We will continue to design and conduct epidemiological surveys to measure the health impact of MDA campaigns and track progress towards disease elimination. Following current practice, we will strive to align our methodologies with those of WHO, ensuring that our information systems and technical recommendations are compatible with WHO-endorsed data banks. Moreover, we will continue our partnership with MoH to support the development and implementation of their national NTD plans, ensuring M&E activities respond to countries' policy priorities.

#### Thank you to our supporters

This year, we ran our first two fundraising campaigns.

In November 2021, we joined forces with the **Big Give's Christmas Challenge** and asked our supporters to help us raise £50,000, which could provide treatment for 150,000 children across our partner countries.

With the help of our Big Give Champion, the Helen and Michael Brown Charitable Trust, and two other generous donors, who offered to match every £1 donated by the public, we hit our target and raised over £63,000.

Fifty-five percent of donors to the appeal were either entirely new to us or had not given for at least two years. This shows not only that we were able to re-engage lapsed supporters, but that we could also attract new supporters. We were so pleased with the support we received, that we thought we'd give it another go in March 2022. This time, we wanted to get backing for Zanzibar's drive to eliminate SCH for good. With the generous help of four allies willing to match every £1 raised, our **#ZanzibarCannotWait** campaign raised a staggering £130,000. This shows that there remains a large and growing pool of people who see that treating and eventually eliminating SCH is essential if the rights of people in endemic countries across sub-Saharan Africa to health, education and prosperity are to be fulfilled. It also shows that people trust us to support this effort, for which we are grateful.



Anithum Ali was featured in our Big Give appeal. Having been infected with SCH, she described the pain and fear she suffered as she learned the disease could prevent her from having children.

### **EVIDENCE-BASED** GENERATING EVIDENCE TO INFORM DECISIONS AND GUIDE OUR WORK

Through cutting-edge research and technical guidance to global partners, we continue our commitment to building the evidence base for deworming programmes. We have made integral contributions to several projects and initiatives over the last year, which have reshaped not only the programmes we directly support, but have implications for SCH control and elimination programmes globally.

#### Supporting global guidance on SCH elimination – new WHO guideline

Concerted efforts over the past two decades, led by health ministries and supported by partners like ourselves, have led to a 60% reduction in the global burden of SCH.

The WHO has released a <u>new guideline on control</u> <u>and elimination of human</u> <u>schistosomiasis</u> in February 2022, advising endemic countries on how to sustain and accelerate the elimination of morbidity (ill health resulting from the infection) and the interruption of transmission with six evidence-based recommendations:



moving beyond SAC as the primary focus for preventive chemotherapy, to more inclusive targeting of pre-SAC and adults within all communities



simplifying the prevalence thresholds for decisionmaking on preventive chemotherapy

3

identifying and managing persistent transmission "hot spots"



guiding the treatment and care of morbidity (ill health caused by SCH) in health facilities



emphasising the critical importance of an intersectoral approach including WASH as well as environmental and behavioural change interventions



setting out a two-step diagnostic framework to verify the interruption of transmission in humans, snails and non-human animal hosts

These changes respond to growing evidence that any morbidity has negative consequences and needs to be prevented – even if it arises in areas of moderate and low prevalence. This contrasts with previous guidance prioritising reduction of heavy infections in high prevalence areas. Historical efforts towards interrupting transmission and more recent evidence from the Schistosomiasis Consortium for Operational Research and Evaluation (SCORE) have shown that preventive chemotherapy alone is unlikely to interrupt transmission. Accordingly, our contributions to the various WHO NTD road map companion documents (page 7) help outline to MoH and implementing partners other essential components,

such as WASH and the One Health approach for action against NTDs, to ensure a far more comprehensive and crosscutting approach to SCH control and elimination than previously recommended.

Our focus is to ensure country ownership of disease control programmes and to improve health equity through disease elimination. We aim to support this by facilitating knowledge exchanges, increasing coordination with other health and non-health sectors and providing technical support where needed to our partners. Alongside support to survey activities described earlier in the report, we also support broader efforts, such as collaboration between local WASH agencies and behaviour change groups.

To operationalise the new quidelines and ensure countries can achieve the goals set out in the NTD road map, the next step will be the development of a M&E framework for SCH. The framework would serve as a pathway from control to interruption of transmission, defining which surveys are needed at key decision points, and inform optimal combinations of interventions suitable to be embedded within existing health systems. These combinations of interventions will be informed by the SCH transmission contexts and will encompass increased access to safe water and sanitation services, snail control, One Health and the treatment and care of morbidity, such as FGS.



#### TACKLING FEMALE GENITAL SCHISTOSOMIASIS

This year we developed a position paper on FGS. This document describes the key actions to address the physiological and psychological burden and impact of disease, with a focus on integration across existing health systems and platforms. The pathology, complications, diagnosis, treatment and co-morbidities related to this condition are described, with recommendations for prevention, improved diagnostics and treatment pathways. The paper also highlights the gaps in research that need to be addressed.

We emphasise the overarching importance of multi-sectoral partnerships and integrated programming to ensure that a holistic approach is used to address FGS and meet the needs of at-risk women and girls.

A farmer works in her lettuce field in the district of Soubré, Côte d'Ivoire. The water is infested with the parasite putting her at risk of SCH infection.

#### Reducing the number of people requiring regular treatment in Burundi

The Burundi Programme National Programme against NTDs and Blindness (National Intégré de lutte contre les Maladies Tropicales Négligées et la Cécité), began its 15<sup>th</sup> year of mass treatment with PZQ and albendazole (ALB). Due to strong political and programmatic commitment from the MoH, our support, and availability of donated drugs, national treatment has been delivered since 2007. All SAC in SCH-endemic districts have been treated with PZQ during the Mother and Child Health Week. Additionally, pre-SAC, SAC and pregnant women in their 2<sup>nd</sup> and 3<sup>rd</sup> trimester are treated with ALB in STH-endemic districts.

In line with WHO guidelines, a reassessment for SCH and STH should be carried out after five to six rounds of treatment<sup>4</sup> to re-determine the burden of infection and required treatment strategy, and to target resources for maximum impact. Burundi's MoH, in partnership with SCIF, mapped the baseline prevalence of SCH and STH in 2007<sup>5</sup> before mass treatments began, followed by a country-wide reassessment in 2014-16<sup>6</sup> and another in 2020-21.

Baseline mapping showed a heavy burden of SCH and STH across the country with prevalence of SCH ranging from 1%-36% within endemic communes and an overall country prevalence of 4.2%. The most prevalent STH (roundworm) ranged from 2%-59% within endemic communes and an overall country prevalence of 15.5%. The first reassessment (2014-16) showed reductions in infection with a commune prevalence range of 0%-26% and overall prevalence of 1.4% for SCH. Roundworm infection reduced across many of the communes, although prevalence remained high and ranged from 0%-68% with an overall prevalence of 15.5%.

The 2020-21 survey was designed to determine the prevalence and intensity of SCH and STH within communes. It found that commune SCH prevalence reduced significantly (see maps below), ranging from 0%-23%, and that overall prevalence had been halved to 0.7%. Two-thirds of communes had no infection. The prevalence of roundworm ranged from 0%-58% across communes with a reduction in overall prevalence to 10.5%.

This survey indicates that Burundi has achieved the WHO 2030 NTD road map target of elimination of SCH as a public health problem (EPHP), as prevalence of heavy intensity of infection is below 1% across all communes – ahead of the expected 2023 target. For STH, 17 communes remain above the 2% threshold of moderate and heavy intensity infections for EPHP.

The MoH can now operationalise the new, more targeted WHO guideline on control and elimination of human SCH<sup>7</sup>, using this current evidence to plan a new treatment regimen going forward at the commune level. The results will also help the MoH to accurately develop and implement their new strategic NTD plan to eliminate (interrupt the transmission of) SCH through other interventions and cross-sectoral coordination activities.



#### CHANGES IN COMMUNE LEVEL PREVALENCE OF SCH INFECTION OVER 12 YEARS OF ANNUAL TREATMENT

 4
 WHO, 2011
 https://apps.who.int/iris/handle/10665/44671
 5
 Ndayishimiye O et al. 2014, <a href="https://doi.org/10.1371/journal.pntd.0002684">https://doi.org/10.1371/journal.pntd.0002684</a>

 6
 https://www.who.int/publications/i/item/9789240041608
 7
 Ortu et al 2017
 <a href="https://doi.org/10.4269/ajtmh.16-0671">https://doi.org/10.4269/ajtmh.16-0671</a>

#### IDENTIFYING MEANINGFUL AND MEASURABLE TARGETS FOR THE CONTROL OF SCHISTOSOMIASIS-RELATED MORBIDITY IN AFRICA

A laboratory technician analyses urine samples at an improvised laboratory at a school in Malawi.

The current goal for controlling SCH morbidity is based on reducing prevalence of heavy infection primarily in SAC. At lower than 1% prevalence of heavy infection intensity, SCH is considered as having been eliminated as a public health problem.

This was a reasonable target when initially defined, as the relationship between the cutoffs for heavy, moderate and low intensity infections (the number of worms in an individual's body) and morbidity was poorly understood. The understanding of what constitutes SCH-associated morbidity has expanded in recent years. In response, the WHO has determined the need to 'Define an indicator for measuring morbidity' as the primary critical action for SCH in the NTD road map. Evidence-based targets for morbidity control will support more

effective use of donated PZQ and will help to maximise programmes' public health impact.

#### The MORBID pilot project

In 2021, we co-led The Morbidity **Operational Research for Bilharziasis Implementation** Decisions (MORBID) pilot study in Kenya and Malawi aimed to identify meaningful and measurable targets for the control of SCHrelated morbidity in Africa as a tool to guide decisions for national programmes. This project assessed prevalence and morbidity in three age groups—pre-SAC, SAC, and adults-in no/low-risk villages and high (>25%) prevalence villages. Overall, species-specific morbidity (e.g. blood-in-urine, bladder and liver pathologies) were significantly higher in the high prevalence villages. A major finding was that a urogenital SCH target threshold

of 10% infection prevalence in SAC could be used to reliably conclude that a village had achieved EPHP. This is because a specific morbidity (blood-in-urine) had been reduced to a level (13% prevalence) which exists where there is no SCH present, i.e. is due to other health factors. This supports findings in our historical data research published with colleagues at the US Centers for Disease Control and Prevention (CDC)<sup>8</sup>.

The MORBID study will contribute to the way in which progress against SCH control and elimination targets is measured globally. It is a collaboration between SCIF, CDC, Centre for Health, Agriculture and Development Research & Consulting, Malawi, and the Kenya Medical and Research Institute, funded by the US Agency for International Development (USAID).

8 Wiegand et al 2021 https://doi.org/10.1371/journal.pntd.0009451

# FINANCIAL REVIEW

#### **TOTAL INCOME**



#### **TOTAL EXPENDITURE**

**£11.85m** 

We realised an operational deficit of  $\pounds4.53m$ (2021,  $\pounds0.35m$  deficit), which was fully in line with the planned drawdown of designated funds (funds ringfenced by the trustees), and we will continue to draw down over the next two years to fund specific programme charitable activities.

We received a total income of  $\pounds$ 7.32m (2021,  $\pounds$ 8.65m). This excludes a receipt of \$20.65m from GiveWell towards the end of the year that will be used to fund programme activities in 2022/23 and 2023/24, which will therefore be recognised in those years.

We spent £11.85m over the year (2021, £9.00m). This increase was in line with the planned drawdown of designated funds. We supported the delivery of over 63 million treatments (2021, 51m treatments). Delivery costs have increased in part due to additional measures required for COVID-19 mitigation measures, which are still being applied in many contexts.

The financial year ended with a strong balance sheet. At the year end, general funds were \$8.08m (2021, \$5.58m), restricted funds were \$0.14m (2021, Nil) and designated funds were \$7.97m (2021, \$14.87m).

### **INCOME 2021–22**



Trusts & Foundations \$3.12m income includes \$0.46m received from Givewell.

These figures have been extracted from the SCI Foundation Annual Report and Financial Statements for the year 2021/22 audited by Haysmacintyre LLP and receiving a clean audit. Please refer to the Audited Accounts for a full picture of the SCI Foundation Financial Performance.

### **EXPENDITURE 2021–22**



\* Other – UK staff, organisational running and office costs.





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