GROUP PHOTO OF PARTICIPANTS IN THE SCHISTOSOMIASIS DATA REVIEW WORKSHOP (SELECTED ANGLOPHONE COUNTRIES OF THE AFRICAN REGION)

REPORT OF THE WORKSHOP ON SCHISTOSOMIASIS SUB-DISTRICT LEVEL DATA REVIEW FOR SHRINKING THE MAP; BETTER UTILIZATION OF AVAILABLE PREVALENCE DATA AND SUB-DISTRICT LEVEL PLANNING FOR SELECTED ANGLOPHONE COUNTRIES

13-16 AUGUST 2019, BRAZZAVILLE, CONGO

Summary report and action points

World Health Organization
REGIONAL OFFICE FOR Africa

ESPEN Expanded Special Project For Elimination Of Neglected Tropical Diseases

Glossary and working definations	
IU	or District, is the largest administration unit, mostly currently used as the implementation unit
Sub-IU	or sub-district, is the lower level implementation unit (e.g. parish, ward etc)
JRSM	Joint request for selected medicines
JAP	Joint application package
JRF	Joint reporting form
GIS	Geographical information system
PZQ	Praziquantel
PC	Preventive chemotherapy
MDA	Mass Drug Administration

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I. INTRODUCTION

Since the launch of the NTD roadmap, up to 23 countries including Burkina Faso, Burundi, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Egypt, Gambia, Guinea, Madagascar, Malawi, Mali, Mauritania, Niger, Senegal, Sierra Leone, Togo, United Republic of Tanzania, Yemen, Zimbabwe have commendably reached the ≥75% coverage target for schistosomiasis by 2017. A total of 75 million SAC were treated in 2017, representing an unprecedented coverage of 69.4% from the 29 countries who reported data in time for the 2017 PC analysis. .

Concerns have been expressed regarding the suitability of the current endemicity data (which many countries aggregate at district level), for appropriate programme implementation at community level as appropriate. While the number of persons requiring preventive chemotherapy (PC) was reduced by 42 million following the completion of schistosomiasis mapping in 41 countries of the region by 2015, there are major gaps in how the mapping data have been interpreted and implemented in various countries. Further, there are concerns about the extent to which populations are either under treated or over treated with donated praziquantel where data are not adequate or appropriately used to determine focal endemic areas for mass drug administration (MDA) targeting.

In late 2017, ESPEN commissioned a consultative group in Brazzaville to further support the analysis of implementation based on the 2015 mapping data andto review areas that are implementing based on mean district level disease prevalence and requesting PZQ based on the district level aggregated data, leading to either 'under-treating' or 'over-treating' in focal areas.

The updated endemicity data from most countries show that it is possible to shrink the SCH map. By using the available prevalence data to better address the focal nature of transmission of the disease, implementation and resources can be focused where they are needed most at the community level.

One of ESPEN's 4 overarching goals is to ensure that medicines are used effectively and delivered to those that need them by strengthening the supply chain management for donated medicines. Within this context, ESPEN wishes to increase efficiency and scale up by ensuring that countries order the right amounts of Praziquantel, and that it is distributed to those people and communities that need the medicines..

This workshop was organized for NTD programme coordinators, schistosomiasis focal points and NTD data managers from 11 Anglophone countries in the African region. These countries were selected based on the potential significant impact that could be gained by moving from the district level implementation to sub-district level implementation. The session for the English-speaking countries of the African region followed the one of Francophone countries conducted from 23 to 26 July 2019, Brazzaville, Congo. ESPEN convened 11 Anglophone countries who were selected based on the population requiring PC, the availability of sub-implementation unit (sub-IU) level prevalence data and where a move to sub-IU level analysis and planning could have a significant impact on the efficient use of PZQ through "shrinking the map". The workshop brought together schistosomiasis focal points and managers from country MoH, NTD data managers and schistosomiasis experts. This initiative was convened by Dr Pauline Mwinzi SCH/STH Focal at ESPEN, and facilitated by facilitated by Dr Eugene Ruberanziza, a team of WHO data consultants lead by Mr Boniface Kinvi, implementing partners and the ESPEN team. Dr Anouk Gouvras from the Global Schistosomiasis Alliance chaired the workshop. The workshop introduced a practical tool using Microsoft Excel 10 that compiled demographic and epidemiological data at the implementation unit (IU) and sub-IU level, allowing countries to assign endemicity and PC action to each sub-IU. The tool produced output tables that demonstrated:

- how many sub-IUs were assigned different endemicity categories based on the two data analysis methods (i.e. one using the aggregated and averaged IU prevalence, the other using the highest site prevalence in a sub-IU) and how many sub-IUs where "endemicity unknown"
- how many sub-IUs were receiving adequate treatment and how many were over or under treated
- how many SAC and adults needed treatment based on IU and sub-IU data allowing comparison between the two methods

- how much PZQ was needed based on IU and sub-IU level data again allowing comparison between the two methods

The participants were trained on how to use this tool and all reported that this tool would be of vital support to them, enabling them to use their data to:

a. calculate how much PZQ they need to treat at risk populations in their countries,

b. determine where to distribute the PZQ they have at the sub-IU using community wide implementation and

c. determine where mapping gaps exist and further assessment is needed either to confirm endemicity or confirm non-endemicity when it is suspected.

They highlighted how this tool could help them tailor intervention strategies and mobilize engagement at the national, regional and local level as well as advocate for resources and funding to cover survey and implementation gaps.

Participants agreed that this tool was a great asset to their schistosomiasis treatment planning and committed to implementing this approach and this tool in their programmes.

II. OPENING CEREMONY

The schistosomiasis data review workshop was opened by Dr Maria REBOLLO POLO, the ESPEN Team Leader. With her introductory presentation, Dr Maria reminded participants of the need for targeted preventive chemotherapy that takes into account the focal nature of schistosomiasis. She shared concerns about implementation at the district level based on the statistical approach and the random selection of sites instead of considering the local knowledge and ecological zones. She concluded by highligthed how participants and the schisto community were driven by our motivation to stop schistosomiasis from damaging our communities and how this was encouraging us to look at how we could be doing better to achieve this common goal.

Dr Pauline Mwinzi gave an overview of the workshop concept, objectives and expected outcomes. It is known that the common practice of averaging prevalence data at the district level ignores the focal nature of schistosomiasis transmission and masks the reality of Schistosoma infection levels in communities. This leads to over and under treatment of communities and inefficient use of praziquantel. Dr Mwinzi showed preliminary data of sub-IUs endemicity categories (low, mid, high based on WHO guidelines) when using the averaged district/IU level-data and when using the site level sub-IU data. It was clear that many sub-IU were incorrectly categorised when using averaged district/IU level data. By comparing these endemicity categories it was also clear that a large number of sub-IUs were inadequately treated (either over treated or under treated). In addition, data gaps were much clearer, highlighting sub-IUs with no data, that were then classed as “endemicity unknown”. This could help define and target further mapping and surveys.

The **overall aim of the workshop** was to work with countries and their implementation partners to review and analyse the data available at the sub-IU levels to target community level treatment. The workshop would introduce and use a practical analysis tool to assist countries with their decisions processes, enabling them to determine the treatment need and distribution based on the current sub-IU data available.

Dr Mwinzi gave an overview of the processes for this data review and analysis. The first part of the workshop will allow country teams to review and validate the data sets used in the workbooks. The second part of the workshop focus on using these workbooks and the decision tree along with additional supportive tools (maps and local knowledge survey) for making decisions for treatment need at each sub-IU

III. WORKSHOP OBJECTIVES AND EXPECTED OUTCOMES

The workshop objectives and expected outcomes were the following:

III. 1. OBJECTIVES

- Conduct sub-district* level analysis using spatial prevalence data supplemented by GIS technology district by district, to describe districts that should adjust their implementation strategy to shrink the country schistosomiasis map
- Update sub-district level planning for participating countries
- Revise PZQ needs based on endemicity review using available data
- Update JRSM based on sub-district (or lowest implementation level).

III. 2. EXPECTED OUTCOMES

- Updated sub-district level implementation planning for participating countries
- Updated PZQ needs based on endemicity review using available data
- Updated Joint request for selected medicines (JRSM) based on prevalence data delineated to sub-district levels

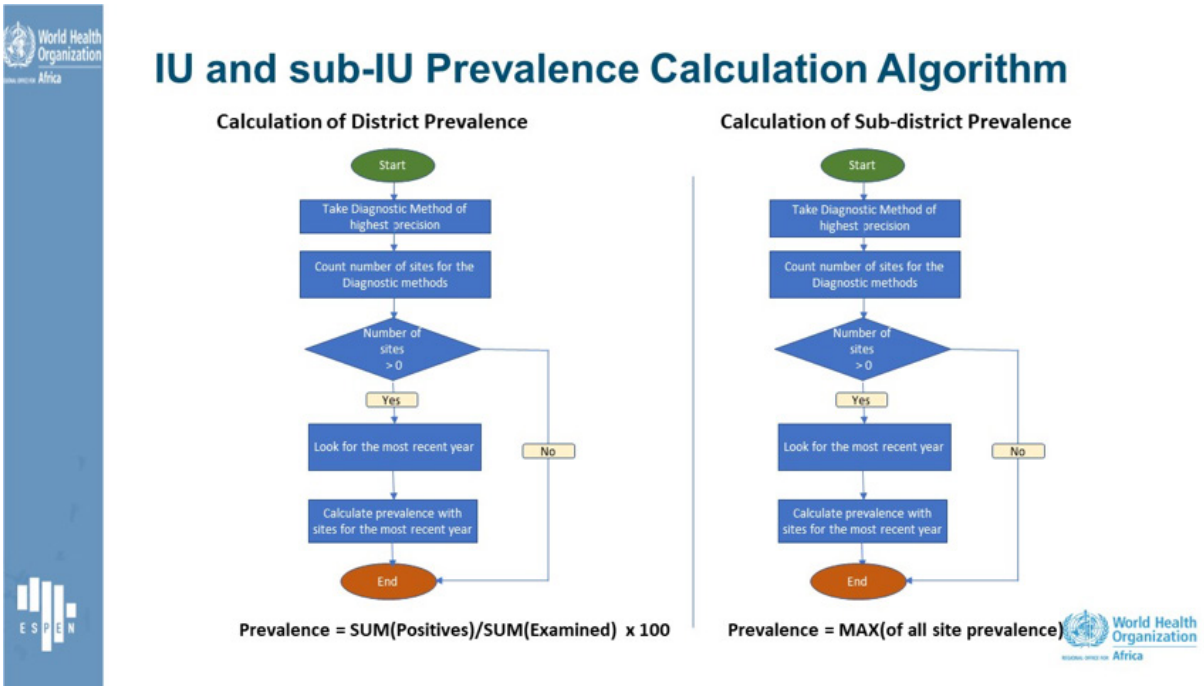
Workshop participants discussed ensuring treatment access to all at risk populations by using granular level endemicity to focus preventative treatment to those areas where treatment is needed and scaling back where treatment may no longer be necessary or where frequency of MDA can be reduced. It was highlighted that whilst there is a need to scale back treatment to school-aged children in areas were transmission is low, there is also a need to scale-up treating to other age groups such as adults and preschool aged children, in mid to high endemic/transmission areas.

Outside of the workshop objective participants also discussed the need for advice and protocols for severe morbidity management in rural areas, reverse logistics and tracking medicines and for vector mapping and control.

Session One: Refresher on current data systems and overview of Workshop tools and processes

Session One of the workshop started with an overview of the ESPEN Portal and PC Data Bank by Mr Honorat Zoure. The NTD community need a reliable repository & database platform bringing together maps, distribution of partners by IU, datasets as well as forms, the ESPEN Portal seeks to address this need. ESPEN has started uploading all the JAP (Joint application package) forms to the ESPEN Portal so that these are available online for each country. There will soon be an automated JAP Wizard that will allow online entry, management and submission of JAP. ESPEN are also working on a smartphone app called ESPEN Collect. ESPEN Collect strategy involves support, data cleaning, data quality check automation and submission to the ESPEN cloud-based database. The country always retains the ownership or the data.

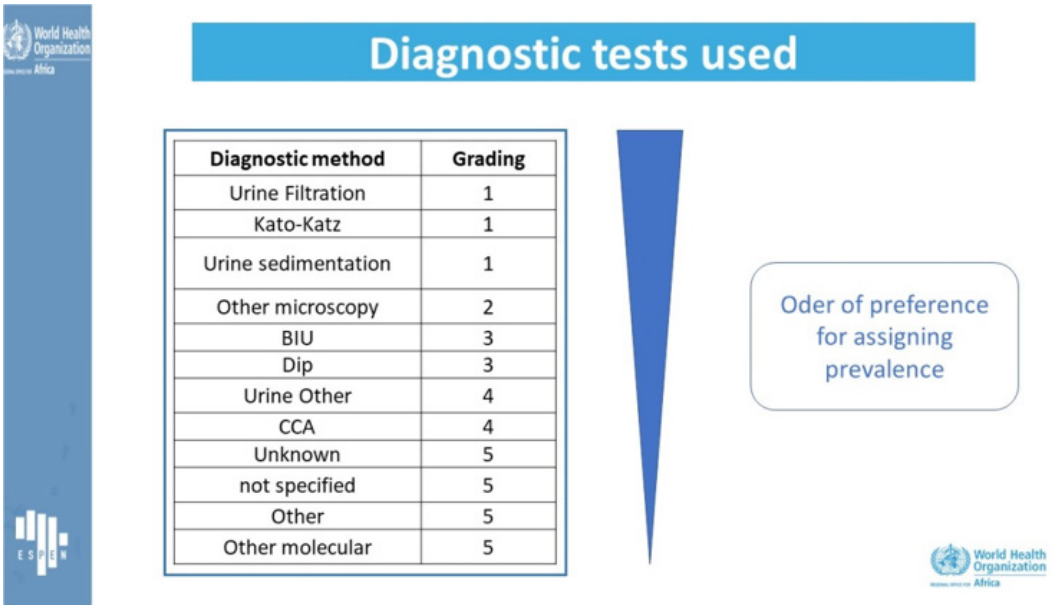
The session continued with a presentation by Mr Boniface Kinvi on the Data Analysis Tools for the workshop. The main software used for this workshop was Windows Excel 10. Relevant data were collected and cleaned, then used to form a country-specific Analysis Workbook – an excel workbook tool with the geographic-demography and epidemiology data in worksheets and a set of output tables with embedded formulas to calculate sub-IU PZQ needs and treatment adequacy. The epidemiology sheets included both the IU average epi data and the sub-IU/site level data to allow comparison and see how sub-IU may give us better information for treatment decisions.

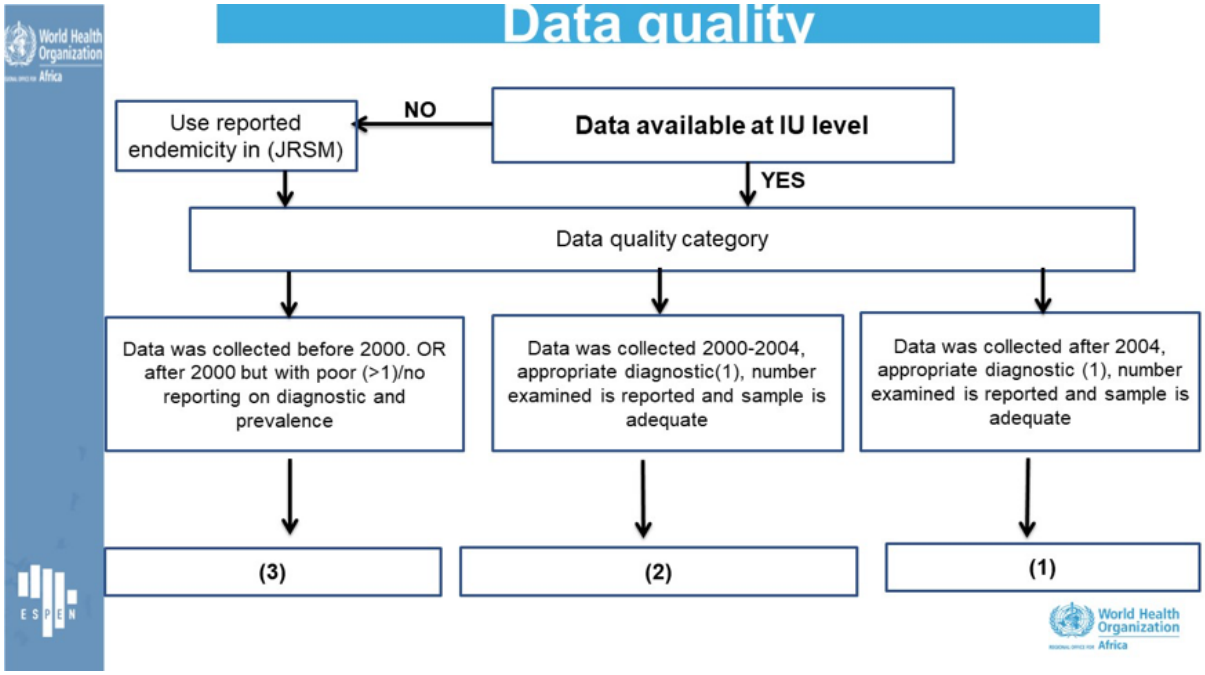


An important part of compiling these workbooks was the Data Quality Control. This was determined based on

- Completeness of the data - all sub-district, data integrity - link all sites to their sub-IU (not just IU)
- Data accuracy and suitability

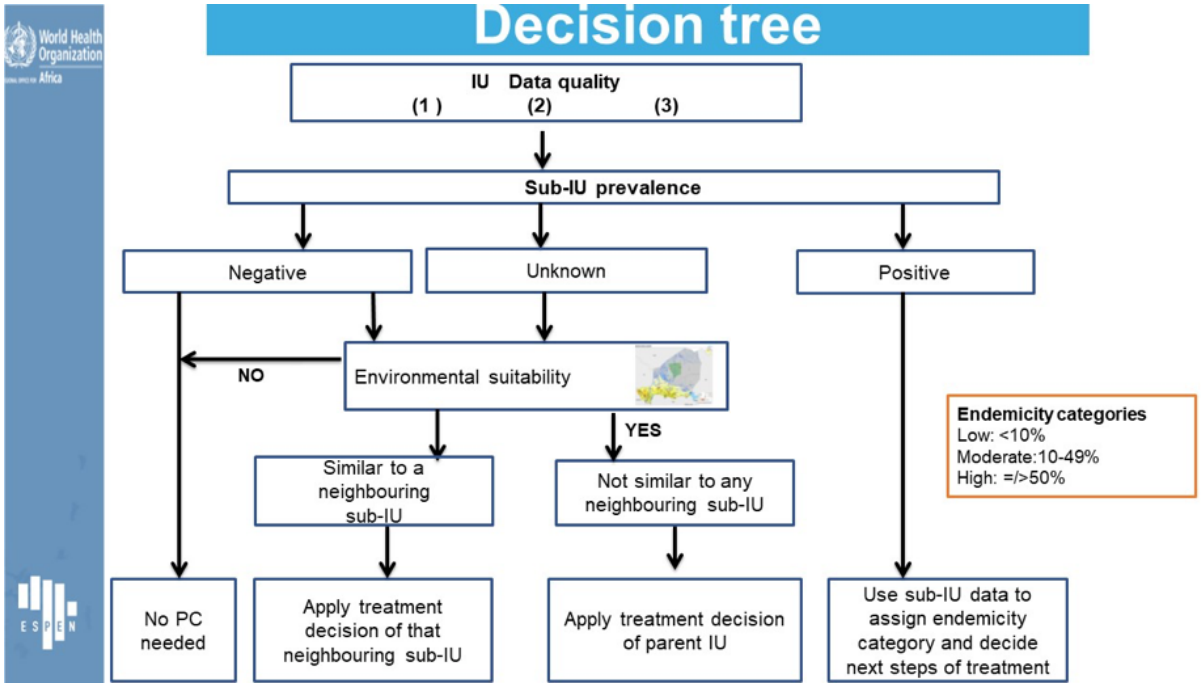
Mr David Kennedy expanded on the Data quality and decision tree. When building the epidemiological sheet, sources of data (mainly from the ESPEN Portal) were used to compile epidemiological data for each country at the sub-IU level. When more than one dataset was available the "best prevalence estimate", the prevalence record that has the best data associated with it (most recent and best diagnostic), was used to build the epidemiological data sheet for each country. Mr Kennedy explained how the best prevalence estimate was determined using two tools: first a diagnostic grading list was used to determine the quality of the diagnostic method used in the datasets to determine the prevalence (known microscopic methods and WHO diagnostic methods were graded highest and other diagnostic methods (sometimes unknown) were graded low) and a data quality decision tree was then used to assign a data quality grade based on the year the data was collected, the sample size and the diagnostic grade.





Mr Kennedy also introduced the Decision Tree the participants would be using in the second part of the workshop to apply PC decisions to each sub-IU based on the epidemiological data they have for each sub-IU. The decision tree also clarified what options were available when the prevalence/endemicity at a particular sub-IU was not known. Options included, applying the average district/IU level endemicity category, applying a neighbouring sub-IU endemicity category, classifying as non-endemic, classifying as needing further assessment. These were also available for sub-IUs determined to be non-endemic based on the available data (options available in case local knowledge indicated otherwise, e.g. wrong site was selected for prevalence).

For sub-IU's with unknown endemicity and for non-endemic, participants could refer to the three maps provided to decide what endemic category and associated PC action should be applied to an "unknown endemicity sub-IU".



Finally, **Mr Levison** presented the current status and the **Pending Data Issues** of the data. The first part of the workshop would allow participants to review the dataset, allow for cleaning and mismatch (between epidemiological and geographical data) resolutions. The focus would be to complete incomplete data as much as possible. E.g. entering missing GPS coordinates for sites, missing GIS shapefiles for sub-IUs, linking schools and sites to their sub-IUs etc.

The participants asked some clarifying questions on the diagnostic grading system and the endemicity and PC Decision Tree. The participants also enquired about changes to shapefiles based on new administrative units for sub-IUs, and on adding new data that the participants may have available to them. The data consultant team confirmed that they would assist countries in changing shapefiles and/or adding additional data as needed.

Outside of the workshop aims participants also discussed how ESPEN Collect could be used for all 5 PC NTDs, how it could be used for reverse logistics and medicine tracking and to monitor what is going on during community MDA. Capacity building opportunities to use the ESPEN dashboard and ESPEN Connect were available through partner support. And ESPEN were piloting and testing how ESPEN Connect could be used for MDA monitoring and reverse logistics.

Session 2: Review of current implementation strategies by schistosomiasis programmes in various countries

Presentations on the current implementation strategy, challenges and future plans were presented by participants from 10 of the 11 anglophone countries participating in the workshop; Uganda, Nigeria, Kenya, Zambia, South Sudan, Zimbabwe, Tanzania, Ghana, Ethiopia, Namibia.

- **Uganda** highlighted its implementation strategy which was tailored to two endemicity scenarios in the country, Scenario 1 for low prevalence areas and Scenarios 2 for high transmission areas. An ongoing study in the IU/districts around Lake Victoria used “Water-body mapping” to define “zones” based on distance to water sources. This is allowing Uganda to refine it’s S. mansoni mapping strategy. Challenges highlighted were: how to administer MDA to the large refugee population in Uganda, how to ensure treatment is reaching non-attending school-aged children (and how to track this treatment) and the need to build capacity to strengthen frontline health facilities, particularly in low transmission areas where a move to test and treat policy is being considered.
- **Nigeria** highlighted the huge number of IUs, stating that each state in Nigeria is about the size of a country, and there are 36 states with different schistosomiasis treatment needs. This presented a particular challenge for them. One state has been carefully mapped and the data provided for the workshop; data from two other states is complete. Nigeria also discussed the difficulties in ensuring access to treatment for mobile communities and camps as well as schools with special needs children where MDA may be more difficult.
- **Kenya** introduced the recently launched Breaking Transmission Strategy (BTS) for 4 PC NTDs and discussed schistosomiasis as part of the BTS where the importance of granular level mapping, good quality data, precipice coverage denominator and integration of SCH into the NTD programme (currently a lot is being independently carried out through the school health programme of the Ministry of Education which can lead to data gaps) are key.
- **Zambia** has a master plan for NTDs with the aim of eliminating schistosomiasis (EPHP) by 2023. Challenges that have been faced include high turnover of NTD officers at the lower health administration level and lack of data hand over and a high dependence on implementing partners that can lead to missed MDA treatment when a partner stops or delays support. Future plans focus on ensuring SCH integrates with Universal Health Coverage activities.
- **South Sudan** reported on recent ESPEN supported schistosomiasis activities with the first MDA starting in 2016 despite insecurity issues and 9 counties receiving MDA in 2019. They highlighted the challenge of using schools as a treatment distribution platform in a country with less than 50% attendance rates. There were challenges related to the management of Severe Adverse Effects in areas of high disease and limited health facilities. They described the need of disaggregated data and the ESPEN supported mapping activities. Using the recent mapping data and the data review and treatment analysis tool from this workshop South Sudan hopes to advocate to integrate PZQ treatment into partner-supported food and nutrition programmes in schools (already being done for STH).

- **Zimbabwe** discussed 2018 impact assessment data that it plans to add to the data sheets for this workshop. They highlighted issues with dwindling MDA funding and a treatment gap created when certain funder partners pulled out. There are ongoing talks to fill this gap with a new implementation partner.
- **Tanzania** gave an overview of district coverage data and highlighted areas where coverage did not meet the required 75% of school aged children for different reasons. There were discrepancies between number of children taking albendazole and those taking PZQ in co-endemic areas, in some areas this is a compliance challenge and others a vertical programme integration challenge. Tanzania has also been collecting data on adults at risk highlighting the treatment gap due to lack of funding to cover high risk adults (HRA). They reported on the challenge of integrating schistosomiasis in the ministry of health national data base (HMIS/DHIS2) which is something that is being prioritised. Tanzania wants to shift to using sub-IU level MDA implementation and to using granular level mapping and impact assessment surveys in endemic areas as well as implement strategies to improve MDA uptake among SAC and HRA.
- **Ghana** discussed how 2015 impact assessment revealed a substantial decrease in schistosomiasis however they face challenges with lagging political commitment, changing administrative boundaries affecting IUs and sub-IUs and the need to expand treatment to high risk adults in certain communities. They expressed thanks to ESPEN for this workshop and producing these data analysis tools which they plan to use to advocate and raise political and financial commitment to address schistosomiasis in endemic sub-IUs.
- **Ethiopia** highlighted how current redistricting activities is changing implementation units which impacts data and implementation. They discussed the need for reverse logistics for MDA to ensure efficient use of PZQ as well as capacity building at the peripheral health facility and institution level, particularly in areas where prevalence is decreasing and a move to a test and treat strategy is being considered. Ethiopia plans to set up a national data management centre for NTDs, for end-line mapping at district level and revising strategies for each district. They highlighted ongoing analysis and lessons learnt from the Geshiyaro and Breaking transmission projects.
- **Namibia** gave a situational analysis of schistosomiasis in Namibia and reported that their first MDA for schistosomiasis was implemented in May 2019, despite there not being a standalone NTD programme, (done through a task force from the Ministry of health epidemiology and data departments and the Ministry of education school health programme). This first MDA was implemented in the North part of the country where schistosomiasis is highly endemic. A serious challenge they faced was a surprisingly high number of Serious Adverse Events following the 2019 MDA with one fatality due to complication with neurocysticercosis. Cysticercosis has now been identified as a big public health problem potentially posing challenges to MDA implementation. They have worked to integrate NTDs including schistosomiasis, into their national health facility reporting system.

The participants discussed the need for mapping areas where data was missing but also recognised that decisions have to be made now, using whatever data Is currently available, and that it was crucial to lobby at the MoH level to use current data for decision making. This workshop and new approach will give countries the remit to lobby for this data to be used in decision making.

Workshop facilitators from Rwanda reported on their mapping activities using GIS and additional data collected from health centres and expanded on how frontline health centres could be approached to collect data on human contact using a questionnaire developed from the Francophone workshop which will be shared in the workshop flash-discs and the final meeting report.

2nd Day Wednesday 14 August 2019

The second day started with an overview of **Scientific updates and new guidelines on schistosomiasis by Dr Amadou Garba**. Dr Garba highlighted the importance of submitting Joint Reporting Form (JRF) promptly so that an accurate report on numbers treated in 2018 can be compiled by the WHO. Dr Garba gave an overview of the draft NTD roadmap for 2021-2030 and the proposed endpoint goals for schistosomiasis. He invited countries to come and discuss with WHO NTD team regarding their milestones for 2023, 2025 and 2030, highlighting that they know their countries and goals best.

The participants discussed how to accelerate efforts towards elimination as a public health problem, maintain these gains and move to interruption of transmission.

Mr Boniface Kinvi introduced the **Group Work** which would be the focus of the rest of the workshop. The first task for the participants was to verify their demographic and epidemiological data and complete any missing information. The next task would be to use the analysis tool to run calculations on prevalence at the IU and sub-IU level, the results would be reviewed to identify gaps and any unexpected results that needed investigating. The final task was for participants to use the analysed prevalence results and the country maps to assign endemicity and PC decisions for each sub-IUs. Mr Kinvi gave an overview of the **JAP with a focus on schistosomiasis planning and reporting** including the JRSM form with the county info and PZQ worksheet, and the JRF to report MDA coverage.

Malawi presented their current implementation strategy, challenges and future plans including how and where to transit from morbidity control to elimination as a public health problem and how the sub-IU analysis will help them direct their elimination efforts to appropriate areas.

Participants worked on reviewing their demographic and epidemiological data to ensure completeness of the data set for each country before moving on to using the PC Decision Tree to assign endemicity and PC decisions. At the end of the day countries gave an update on their progress.

3rd Day Thursday 15 August 2019

Day three started with a briefing and update from countries. A slide was created to track gaps and progress to fill them. The data consultants led by Mr Kinvi and Mr Kennedy reviewed the Decision Tree and answered any clarifying questions. The maps were handed out on flash drives and in printed forms for each country.

Some countries, Uganda, Malawi and Namibia completed their data review and were progressing to the next phase of the workshop using the Decision Tree and maps to assign endemicity and PC decisions to each sub-IU.

4th Day Friday 16 August 2019

Participants gave short presentations on their progress with the data review and workbook analysis for the sub-IU PC decisions. Nigeria, Zambia, Uganda, Namibia, Kenya, Malawi and South Sudan presented preliminary output tables comparing endemicity categories, treatment adequacy, PZQ requirements based on district/IU level averaged prevalence and sub-IU level data. These presentations already showed where over-treatment and under-treatment had occurred, and where treatment should be targeted.

The outputs produced by the countries at this point are presented in Annex 1

Final Discussion Session

IV. DR EUGENE RUBERANZIZA PRESENTED ACTION POINTS DEVELOPED FROM THE FRANCOPHONE WORKSHOP, ENCOURAGING DISCUSSION AND INPUT (ACTION POINTS OF THE WORKSHOP

IV. 1. ACTION POINTS FOR COUNTRIES

1. Identify and submit all the sub-districts / health area lists to benefit from the following decisions:
    - **a.** Sub-districts / Health Areas not to benefit from mass treatment;
    - **b.** Sub-districts / Health Areas to benefit from mass treatment and
    - **c.** Sub-districts / Health Areas for which decisions are expected following additional investigations;

2. Revise the JRSM regarding Praziquantel requests in light of the changes made following the schistosomiasis shrinking the map workshop (**medicine application deadline remains 15th August**);
3. Implement praziquantel distribution at sub district level once endemicity classification per sub district level is available (medicines remaining after distribution targeted at sub district level in 2020 will be utilized in 2021);
4. Disseminate the relevant packages and tools received from the workshops to health actors at the level of the Regions / Provinces, Health Districts, Health Centers and Health Posts as well as the implementing partners of the schistosomiasis control programs.

IV. 2. ACTION POINTS FOR ESPEN/WHO

1. Continue technical support to countries for the correct implementation of this approach to focus PC with Praziquantel, for its effective and general application by 2020 at the latest;
2. Following the workshop, establish a communication network/framework to facilitate exchanges between SCH programme coordinators/focal points, ESPEN and SCH experts, to support the application of the approach to focus MDA;
3. Provide technical support to countries where needed by sending consultants or WHO staff where necessary;
4. Continue advocacy for the availability of PZQ for adult treatment.

V. CLOSING CEREMONY

The closing ceremony started with remarks by Ms Carlie CONGDON, Senior Associate Director, The END Fund. On behalf of partners, she expressed satisfaction from the concept of focusing praziquantel distribution and the work accomplished during the workshop. She highlighted the need to continue to support countries to ensure full implementation of this approach.

On behalf of MOH participants, Dr Makoy SAMUEL YIBI, PC NTD Manager in South Sudan, expressed the enthusiasm of SCH programme managers to implement mass treatment only where communities are exposed to the disease. He stressed that the programme managers had the opportunity to use their data and understand the benefits of shifting from district implementation to sub district level implementation. He thanked ESPEN for all support provided to countries to map SCH and implement preventive chemotherapy in countries. Dr Makoy called for further support to countries to ensure application of this approach and reiterated the need for praziquantel to also treat adults.

Dr Amadou GARBA DJIRMAY, Schistosomiasis Focal Point at WHO/HQ, reminded the advantages of focused schistosomiasis preventive chemotherapy and informed on development of protocols for morbidity control and impact surveys. He encouraged the programme managers to consider this approach that will help target all exposed communities and save resources from misuse in unexposed areas of the districts. He emphasized that the current WHO guidelines recommend PC for endemic communities rather than districts.

In her closing remarks, Dr Maria REBOLLO POLO, the ESPEN Team Leader congratulated the participants and facilitators the on this hands-on, action-orientated workshop.. She appreciated the hard work done by participants and called upon programme managers to make difference in their respective countries, by optimizing the PC for schistosomiasis for more impact. She thanked participants for committing to this workshop and its outcomes. .

The workshop was closed by Dr Akpaka KALU, Programme Manager Malaria/WHO/AFRO, who was representing the CDS Director a.i. In his speech, Dr Akpaka emphasized the importance of quality data on which actions are taken.. Programme Managers have to support evidence-based interventions as they understand better where diseases are endemic and where populations need to be targeted for interventions. He also stressed on ESPEN/ WHO support to Member States to ensure interventions are evidence based. He ended his remarks by thanking participating countries, partners, WHO consultants and staff who facilitated this successful workshop.

VI. ANNEXES

ANNEX 1: Summary tables of results of SCH data review and PC planning at sub-district level

Table 1: District versus sub-District endemicity categories

Country	Total number of Districts	number of Districts included in the analysis	Total number of sub-Districts included in the analysis	Number of sub-Districts with data	Endemicity by District					Endemicity by Sub-District				
					Non endemic	Low	Moderate	High	Unknown	Non endemic	Low	Moderate	High	Unknown
Ethiopia	898	20	437	98	83	149	205					98		339
Ghana	260	260	1,375	177	95	280	238	117	645	31	70	45	31	1,198
Kenya	291	291	1,450	516	576	221	262	50	341	481	29	6		934
Malawi	32	32	433	258	9	329	95			54	88	109	7	175
Namibia	35	35	121	104	33	52	26		10	32	34	31	7	17
Nigeria	774	21	226	38		80	146			2	19	15	2	188
South Sudan	80	80	515	261	107	212	154	18	24	114	52	74	21	254
Tanzania (Mainland)	174	174	3,243	167	110	309	61		2,763	86	44	35	2	3,076
Uganda	134	134	7,501	1,739	1,012	3,883	1,812	95	699	485	648	458	148	5,762
Zambia	103	103	1,421	402	41	637	520	22	201	105	93	140	64	1,019
Zimbabwe	63	63	1,967	359	374	1,350	243			157	109	82	11	1,608
Total	**2,844**	**1,213**	**18,689**	**4,119**	**2,440**	**7,502**	**3,762**	**302**	**4,683**	**1,547**	**1,186**	**1,093**	**293**	**14,570**

Table 2: Change in endemicity categories (all 11 countries)[(a)]

Classification by district prevalence		Sub-District Classification				
District Classification	# of Sub-Districts	Non endemic	Low	Moderate	High	Unknown
Non endemic	2,440	488	66	44	5	1837
Low	7,502	752	865	473	69	5343
Moderate	3,762	275	226	571	176	2514
High	302	32	29	5	43	193
Unknown	4,683					4683
Total	**18,689**	**1,547**	**1,186**	**1,093**	**293**	**14,570**

(a) For all 11 countries; but the summary of the classification for each country is also available

Table 3: Treatment adequacy in district level implementation

Country	# sub-districts with prevalence data	# sub-Districts with Adequate Treatment	# sub-Districts with Over Treatment	# sub-Districts with Under Treatment	# sub-districts without prevalence data
Ethiopia	98	58	40		339
Ghana	177	140	12	25	1,198
Kenya	516	227		289	934
Malawi	258	123	76	59	175
Namibia	104	71	24	9	17
Nigeria	38	17	7	14	188
South Sudan	261	163	25	73	254
Tanzania (Mainland)	167	73	23	71	3,076
Uganda	1,739	775	437	527	5,762
Zambia	402	154	108	140	1,019
Zimbabwe	359	166	81	112	1,608
Total	**4,119**	**1,967**	**833**	**1,319**	**14,570**

Table 4: Estimates of the population requiring preventive chemotherapy (PC) by district level implementation versus estimates by sub district level implementation (sub districts with prevalence data)

Country	# sub-districts with endemicity category by sub-district data	District Level Implementation		Sub-district level implementation	
		Population of SAC requiring PC	Population of adults requiring PC	Population of SAC requiring PC	Population of adults requiring PC
Ethiopia	98	35,482	18,192	43,718	31,584
Ghana	177	418,385	170,540	391,194	129,397
Kenya	516	1,338,171	619,586	101,074	14,755
Malawi	258	1,539,821	405,538	1,594,065	829,723
Namibia	104	155,721	51,299	167,437	61,781
Nigeria	38	113,305	64,365	104,244	37,826
South Sudan	261	996,558	292,773	859,325	242,253
Tanzania (Mainland)	167	167,388	89,845	118,435	66,606
Uganda	1,739	1,306,603	383,446	1,237,356	322,107
Zambia	402	829,658	294,082	909,330	225,667
Zimbabwe	359	353,744	42,300	350,782	144,366
Total	**4,119**	**7,254,836**	**2,431,966**	**5,876,960**	**2,106,065**

Table 5: Drug estimates in District level implementation versus estimates in sub-District level implementation

Country	# sub-districts with endemicity category by sub-district data	District Level Implementation		Sub-district level implementation	
		PZQ estimations for SAC	PZQ estimations for adults	PZQ estimations for SAC	PZQ estimations for adults
Ethiopia	98	88,705	54,576	109,296	94,752
Ghana	177	1,045,971	511,620	977,988	388,191
Kenya	516	3,345,433	1,858,758	252,685	44,265
Malawi	258	3,849,557	1,216,614	3,985,164	2,489,169
Namibia	104	389,308	153,897	418,595	185,343
Nigeria	38	283,264	193,095	260,610	113,478
South Sudan	261	2,491,392	878,319	2,148,314	726,759
Tanzania (Mainland)	167	418,469	269,535	296,081	199,818
Uganda	1,739	3,266,508	1,150,338	3,093,373	966,321
Zambia	402	2,074,141	882,246	2,273,322	677,001
Zimbabwe	359	884,355	126,900	876,950	433,098
Total	**4,119**	**18,137,103**	**7,295,898**	**14,692,378**	**6,318,195**

Table 6: Comparison between underestimates and overestimates of drug needs at district level for 4,119 sub districts with prevalence data

Country	# sub-districts with endemicity category by sub-district data	Population of SAC adequately treated	Population of SAC missing treatment	Population of SAC unnecessary treated	Unclaimed PZQ (for SAC missing treatment)	PZQ misused (for SAC unnecessary treated)
Ethiopia	98	25,179	8,236	0	20,591	0
Ghana	177	334,136	17,239	44,430	43,095	111,078
Kenya	516	42,869	0	1,237,097	0	3,092,748
Malawi	258	815,020	299,043	244,799	747,606	611,999
Namibia	104	103,897	23,011	11,295	57,525	28,238
Nigeria	38	44,150	12,138	21,199	30,344	52,998
South Sudan	261	572,514	113,518	250,751	283,797	626,875
Tanzania (Mainland)	167	67,694	14,556	63,509	36,387	158,775
Uganda	1,739	542,514	308,660	377,907	771,647	944,782
Zambia	402	350,597	315,592	235,920	788,976	589,795
Zimbabwe	359	127,264	94,112	97,074	235,281	242,686
Total	**4,119**	**3,025,834**	**1,206,105**	**2,583,981**	**3,015,249**	**6,459,974**

ANNEX 2: Data collection for the refinement of schistosomiasis endemicity at sub district level

COUNTRY NAME: .....

REGION/PROVINCE: .....

DISTRICT: .....

SUB DISTRICT \HEALTH AREA[a]: .....

HEALTH FACILITY NAME[b]: .....

No	Name of the village or community	Total population in 2019 in the village	Potential Schisto cases reported in the village (haematuria or diagnosed by microscopy at health facility): **1** if Yes **0** if No	Type of water body[c]: 1. River, Lake 2. Pond 3. Irrigation canal 4. Rice plantation 5. Other wetland (specify) 6. None	Activities around the water body[c]: 1. Fishing 2. Farming 3. Domestic use 4. Other (specify) 5. None	Source of water supply[c]: 1. Pond, lake, river 2. Drill or well 3. Household pump 4. Pipe 5. Other (specify) 6. None	Sanitation status[c]: 1. Open defecation 2. Household latrines	Availability of health post: **1** if Yes **0** if No	Availability of laboratory where microscopy is done **1** if Yes **0** if No	Availability of Community health workers/ Drug distributors **1** if Yes **0** if No	Number of schools in the village **(write number of schools)**
1											
2											
3											
4											
5											
6											
...											
	TOTAL										

(a) Country to use the appropriate name

(b) Front line health facility to fill the form (or Praziquantel delivery channel)

(c) Enter all numbers that apply

ANNEX 3: Agenda of the workshop for Anglophone countries

1st DAY: Tuesday 13 August 2019

TIME	ACTIVITY/TOPIC	FACILITATOR/ SPEAKER
08h30 - 09h	Registration of participants	Secretariat

09h - 10h	Opening Ceremony
	· Introductions
	· Administrative announcements and security briefing
	· Opening session
	  · Welcome remarks (ESPEN Team Leader)
	  · Opening address CDS a.i
		UNDSS
		Dr Maria Rebollo
		Dr Magaran Bagayoko

10h – 10h30	Concept, meeting objectives and expected outcomes Discussion on expected outcomes	Dr Pauline Mwinzi
10h30 - 11h	Group photo; Coffee break	
	SESSION 1 Refresher on current data systems; PCT Data bank, ESPEN Portal, country data sets	
11h - 11h15	JAP, with focus on SCH planning and reporting	Mr Boniface Kinvi
11h15 - 11h30	ESPEN Portal, PC Data bank	Mr Honorat Zoure Mr Boniface Kinvi
11h30 - 12h	Data analysis tools	Mr Boniface Kinvi
12h - 12h30	Data quality and decision tree	Mr David Kennedy
12h30 - 13h	Pending data issues to be solved Discussion	Mr Levison Nkhoma All participants
13h - 14h30	Lunch & Side Meetings	

TIME	ACTIVITY/TOPIC	FACILITATOR/ SPEAKER
	Plenary session 2 Review of the current implementation strategies by Schistosomiasis control programmes in various countries	
14h30 - 15h30	Status of implementation of Schistosomiasis control in countries (6 countries)	Dr Anouk Gouvras Dr Eugene Ruberanziza Programme Managers
15h30 - 16h	Discussion	All participants
16h - 16h30	Coffee break	
16h30 - 17h30	Status of implementation of Schistosomiasis control in countries (5 countries)	Dr Anouk Gouvras Dr Eugene Ruberanziza Programme Managers
17h30	End of day 1	

2nd DAY: Wednesday 14 august 2019

TIME	ACTIVITY/TOPIC	FACILITATOR/ SPEAKER
08h30 - 10h	Scientific updates and new guidelines on schistosomiasis	Dr Amadou Garba
10h - 10h15	Introduction of group work	Dr Pauline Mwinzi Mr Boniface Kinvi
10h15 - 10h30	Summary of output templates: Review of excel data outputs, JRSM	Mr Boniface Kinvi
10h30 - 11h	Coffee break	
	Session 3 Country group work	
11h - 13h	Supported group work - country sub-district analysis	Data consultants ESPEN LSTMH
13h - 14h	Lunch	
	Session 3 continued Country group work	
14h - 16h30	Supported group work - country sub-district analysis	Data consultants ESPEN LSTMH
16h30 - 17h	Coffee break	
17h - 17h30	Report on progress from country analysis	Program Managers
17h30	End of day 2	

3rd DAY: Thursday 15 august 2019

TIME	ACTIVITY/TOPIC	FACILITATOR/ SPEAKER
09h - 09h15	Introduction of the day	Dr Anouk Gouvras
	Session 4 Supported group work - country sub-district planning	
09h15 - 10h	Update on Day 2 group work progress	Programme Managers
10h - 10h30	Supported group work -country sub-district planning	Data Consultants ESPEN LSTMH

TIME	ACTIVITY/TOPIC	FACILITATOR/ SPEAKER
10h30 - 11h	Coffee break	
	Session 4 Continued - Supported group work - country sub-district planning	
11h - 12h30	Supported group work -country sub-district planning	Data Consultants ESPEN LSTMH
12h30 - 13h30	Lunch	
13h30- 16h	Supported group work -country sub-district planning	Data Consultants ESPEN LSTMH
16h - 16h30	Coffee break	
16h30 - 17h30	Report on progress from country analysis	Dr Anouk Gouvras Dr Eugene Ruberanziza Programme Managers
17h30	End of day 3	

4th DAY: Friday 16 august 2019

TIME	ACTIVITY/TOPIC	FACILITATOR/ SPEAKER
09h - 10h	Country analysis progress Decision tree	Programme Managers Mr David Kennedy
10h - 10h30	Country presentations	Programme Managers
10h30 - 11h	Coffee break	
	Session 5 Country presentations – Revised JRSM and SCH workplan	
11h - 11h30	Country presentations	Prof Nicholas Midzi Dr Anouk Gouvras Programme Managers
11h30 - 12h	Country presentations	Prof Nicholas Midzi Dr Anouk Gouvras Programme Managers
12h - 13h	Country presentations	Prof Nicholas Midzi Dr Anouk Gouvras Programme Managers
13h - 14h	Lunch	
	Thematic session	
14h - 16h	Summary and action points	Dr Eugene Ruberanziza
16h - 16h30	Closing ceremony · Remarks Partners · Remarks MOH · WHO/HQ Remarks · Remarks ESPEN Team Leader · Closing address CDS a.i	Dr Carlie Congdon, END Fund Dr Makoy Yibi logora Dr Amadou Garba Dr Maria Rebollo Dr Magaran Bagayoko
16h30 - 17h	Coffee break and departure	

ANNEX 4: List of participants to the schistosomiasis data review workshop, 13-16 August 2019, Brazzaville, Congo

Nº	Country	Name	Title/ Position	Institution	Email
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