World Health Organization

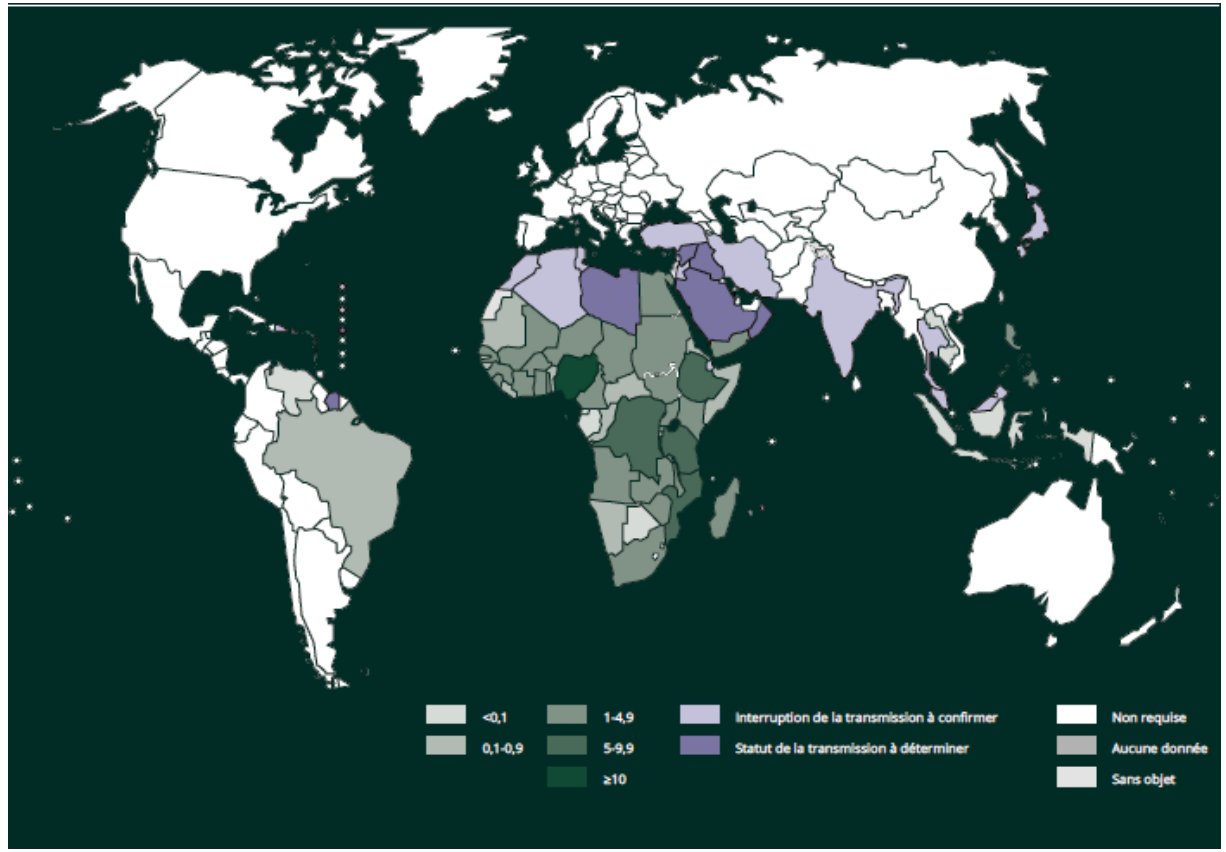
Schistosomiasis

Updates on the global number of people requiring PC, 2022 treatments, M and E and need for impact surveys

Global situation of schistosomiasis

Global situation of schistosomiasis

- 78 Countries and territories are endemic
- 50 countries in need of preventive chemotherapy (PC)
- **264 million people requiring PC** in 2022 (**91%** in Africa)
- Publications and reports on transmission of schistosomiases in Nepal, Myanmar and India



Status of countries and territories endemic for schistosomiasis in 2022

50 countries requiring preventive chemotherapy

MDA not started	MDA started but not at scale or irregular	MDA scaled to all endemic IU*s	Need evaluation to verify interruption of transmission	Need mapping to determine current situation
Equatorial Guinea, South Africa,	Angola, Brazil, Congo, Nigeria, Somalia, Central African Republic, Chad, Gabon, Guinea-Bissau, Sao Tome and Principe, South Sudan, Venezuela (Bolivarian Republic of), Zambia, Botswana, Namibia	Benin, Burkina Faso, Burundi, Cambodia, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Egypt, Gambia, Ghana, Guinea, Kenya, Liberia, Lao People's Democratic Republic, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Philippines, Rwanda, Senegal, Sierra Leone, Sudan, Eswatini, Togo, United Republic of Tanzania, Uganda, Yemen, Zimbabwe	Mauritius, Iran, Iraq, Jordan, Oman, Tunisia, Morocco, Syria, Saint Lucia, Surinam, Antigua and Barbuda, Dominican rep., Puerto Rico, Guadeloupe, Martinique, Montserrat, Saudi Arabia, China, Japan	Djibouti, Lebanon, India, Thailand, Malaysia, Turkey, Libya, Algeria, Myanmar
2	15	33	19	9

*IU. Implementation unit

2022 Global schistosomiasis treatments-provisional

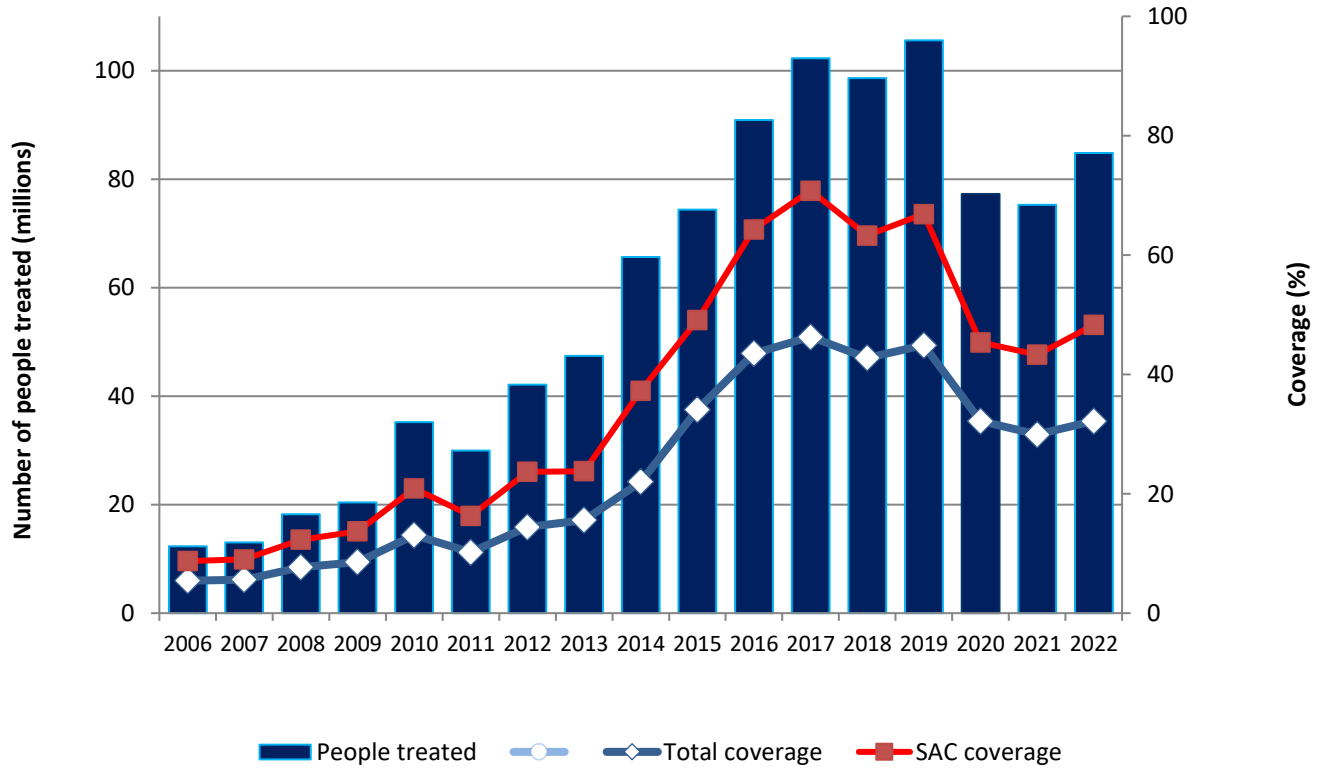
- 93.6% of all treatment delivered globally was in the African Region
- 50.6% coverage for SAC in the African Region

Treatments

Requiring PC: 263.7 million *(134.6 million SAC and 129.1 million adults)*

- Total **84.8** million (32.2% coverage)
- SAC 58.9 million (48.3% coverage)
- Adults 19.9 million (15.4% coverage)
- Nb. of reports 33 (66.0%)

2019: 105.5 M treated, SAC coverage=67.2%
2020: 77.2 M treated, SAC coverage=45%,
2021: 80.6 M treated, SAC coverage=46.9%



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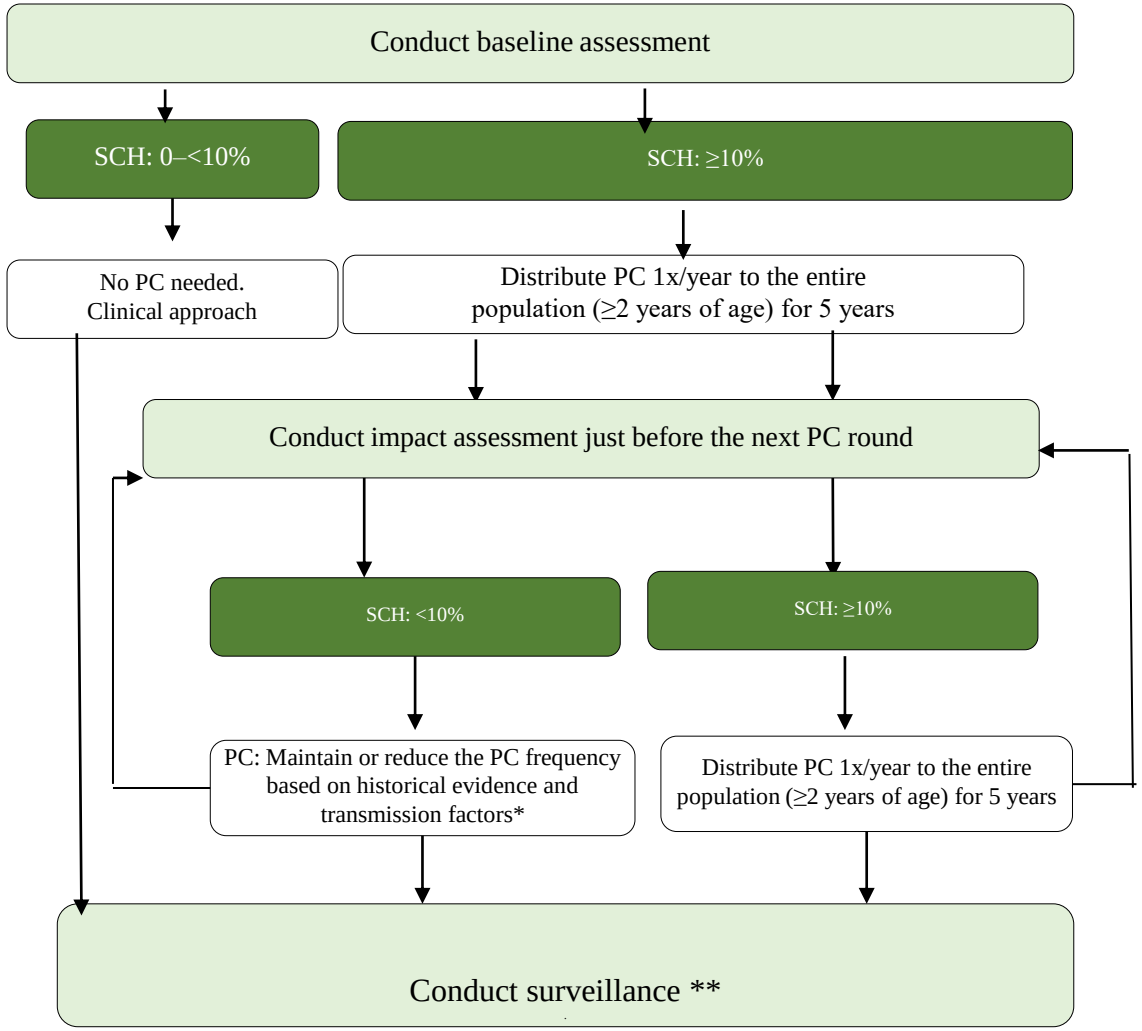
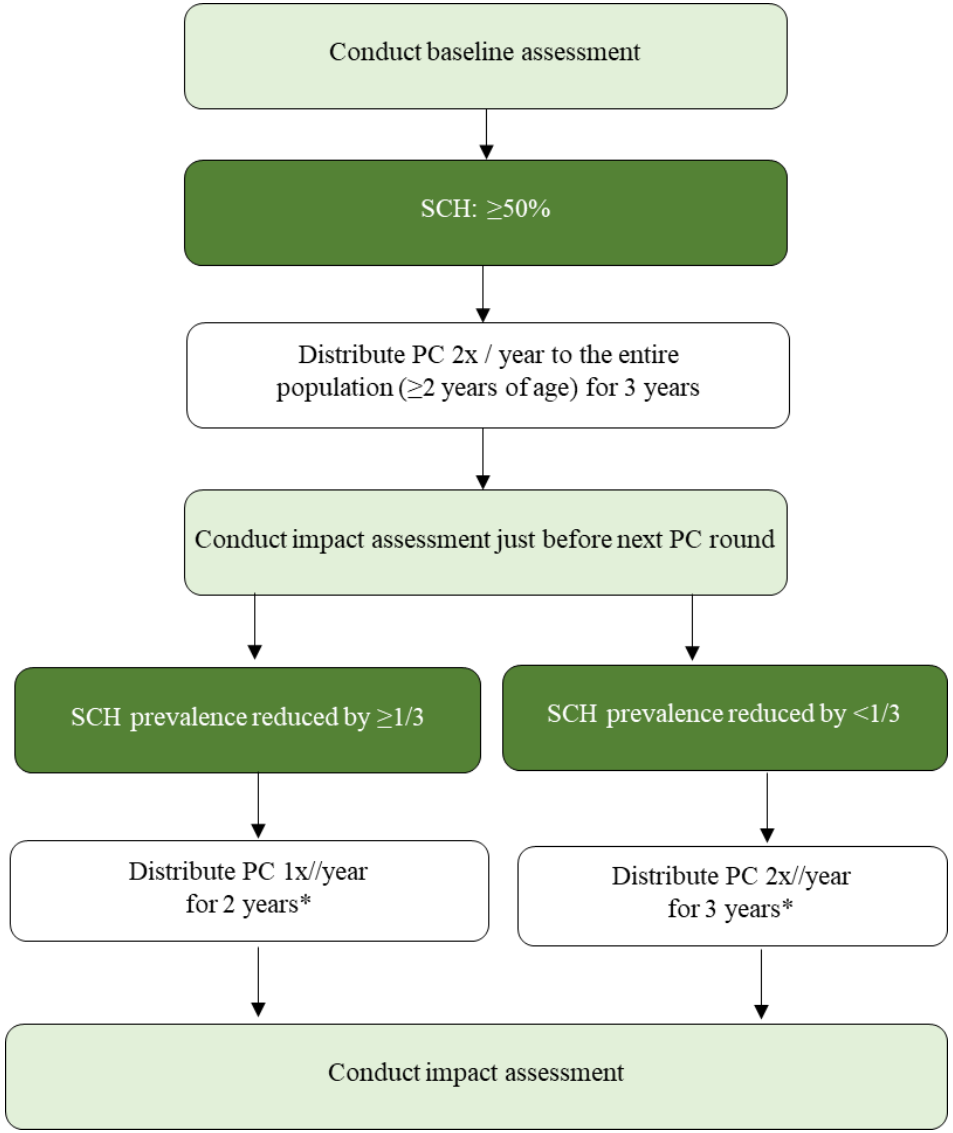
Monitoring and evaluation framework for assessing soil-transmitted helminthiasis and schistosomiasis control programmes

Frequency of PC distribution and assessments for SCH

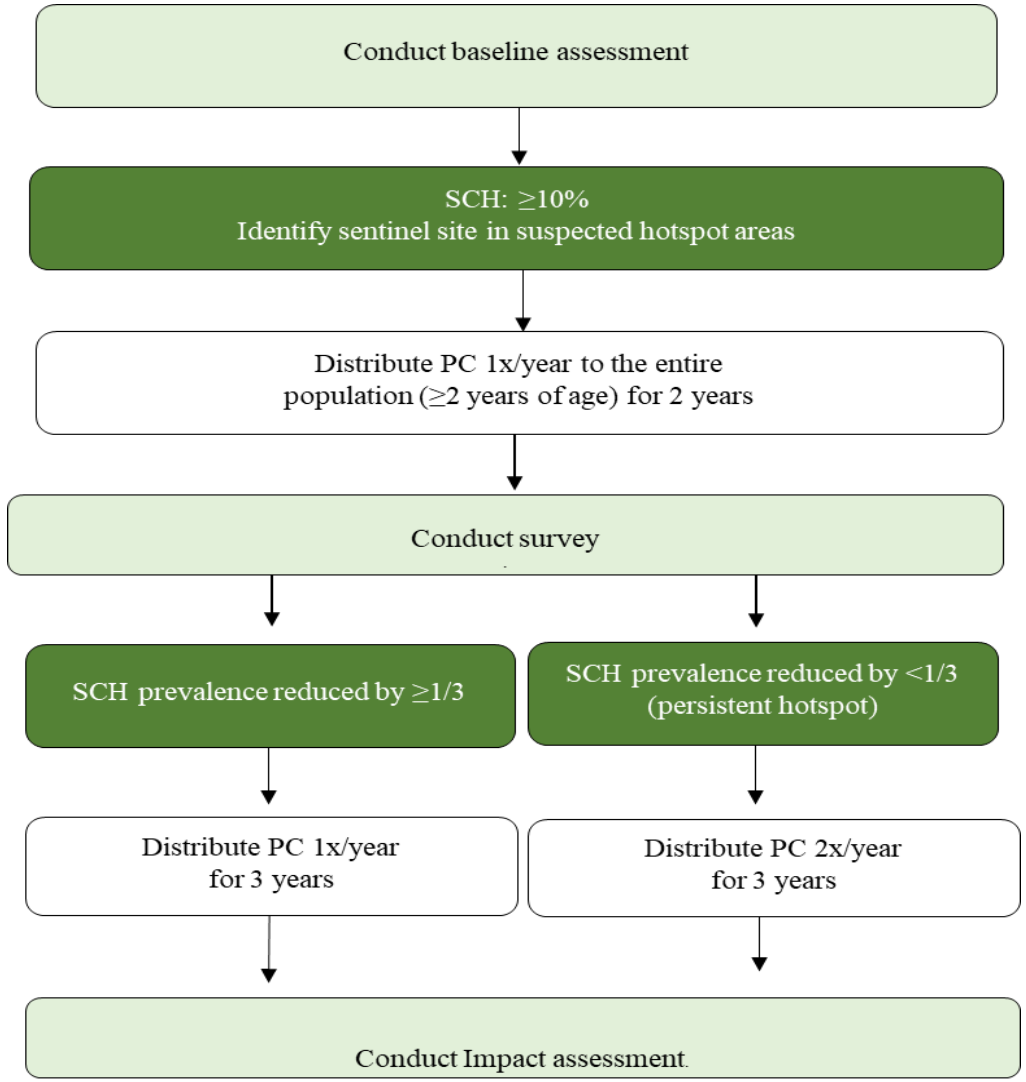
Standard approach



Special case 1. High prevalence areas (P≥50%)



Special case 2. Hot spots



WHO guideline for control and elimination of human schistosomiasis- 2022

Recommendation 1

In endemic communities with prevalence of *Schistosoma* spp. infection ≥ 10%, WHO recommends annual preventive chemotherapy with a single dose of praziquantel at ≥ 75% treatment coverage in all age groups from 2 years old, including adults, pregnant women after the first trimester and lactating women, to control schistosomiasis morbidity and advance towards eliminating the disease as a public health problem.

- *Strong recommendation*
- *Certainty of evidence: moderate*

Recommendation 2

In endemic communities with prevalence of *Schistosoma* spp. infection < 10%, WHO suggests one of two approaches based on programmatic objectives and resources: (i) where there has been a programme of regular preventive chemotherapy, to continue the intervention at the same or reduced frequency towards interruption of transmission; or (ii) where there has not been a programme of regular preventive chemotherapy, to use a clinical approach of test-and-treat, instead of preventive chemotherapy targeting a population.

- *Conditional recommendation*
- *Certainty of evidence: very low*

WHO GUIDELINE
on control and elimination
of human schistosomiasis

Evidence-based recommendations

World Health Organization

WHO guideline for control and elimination of human schistosomiasis- 2022

Recommendation 3

In endemic communities with prevalence of *Schistosoma* spp. infection ≥ 10% that demonstrate lack of an appropriate response to annual preventive chemotherapy, despite adequate treatment coverage (≥ 75%), WHO suggests consideration of biannual (twice yearly) instead of annual preventive chemotherapy.

- *Conditional recommendation*
- *Certainty of evidence: very low*

Recommendation 4

WHO recommends that health facilities provide access to treatment with praziquantel to control morbidity due to schistosomiasis in all infected individuals regardless of age, including infected pregnant excluding the first trimester, lactating women and pre-SAC aged < 2 years. The decision to administer treatment in children under 2 years of age should be based on testing and clinical judgement.

- *Strong recommendation*
- *Certainty of evidence: moderate*

WHO GUIDELINE
on control and elimination
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Evidence-based recommendations

World Health Organization

WHO guideline for control and elimination of human schistosomiasis- 2022

Implementation considerations

- Lack of an appropriate response should be defined as a less than one-third relative reduction in prevalence comparing the baseline prevalence survey and a repeat prevalence survey completed after 2 years of annual preventive chemotherapy. The intervening period should include a minimum of two rounds of preventive chemotherapy to all at-risk groups at adequate treatment coverage (≥ 75%). The relative reduction in prevalence can be estimated as follows: [(prevalence at baseline − prevalence at year 3)/(prevalence at baseline)]. Alternative definitions could consider absolute changes in prevalence of infection, or changes in average intensity of infection (defined as egg concentrations in stool or urine).

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WHO GUIDELINE
on control and elimination
of human schistosomiasis
Evidence-based recommendations

WHO guideline for control and elimination of human schistosomiasis- 2022

- Communities suspected to be "persistent hot spots" or of high endemicity (defined as areas with baseline prevalence ≥ 50% in school-aged children (SAC) are encouraged to conduct early prevalence surveys (after two annual rounds of preventive chemotherapy) to inform any decision on the use of biannual treatment.
- Biannual preventive chemotherapy should be prioritized in areas of higher prevalence (defined as areas with baseline prevalence ≥ 50% in SAC and persistent hot spot settings already achieving high levels of coverage of annual preventive chemotherapy without appropriate response. In settings of moderate prevalence (defined as areas with prevalence 10–49% in SAC), annual treatment may be sufficient

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Review of the number of people requiring preventive chemotherapy for schistosomiasis

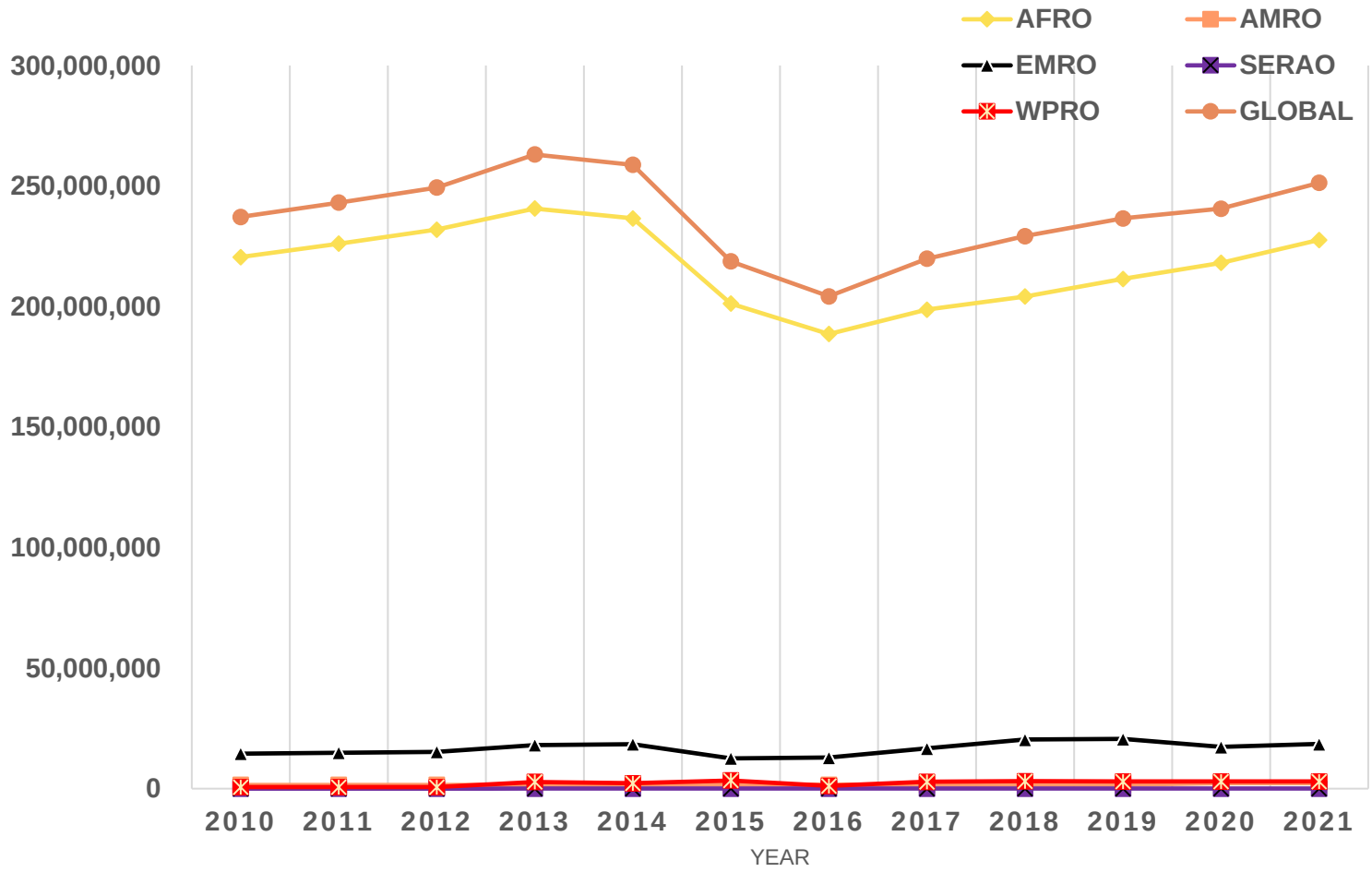
Objective

The objective is to revise the estimate of the number of people requiring preventive chemotherapy for schistosomiasis by reflecting the impact achieved and the new schistosomiasis guideline, in order to have an accurate estimate for monitoring the progress of the NTD road map and for more efficient management of the donation of praziquantel.

Rationale

- The number of people requiring PC for schistosomiasis keeps increasing despite the impact of PC (251 M in 2021, 264 M in 2022)
- More than 2 Billion tablets of praziquantel have been distributed in the African region 2012 to 2022
- A systematic review on the effect of preventive chemotherapy for schistosomiasis during the past 20 years has shown a reduction of 60% of the prevalence in SAC
- The same review has shown that the number of people requiring PC in the Africa region would be 111 M, if the treatment is targeted
- Schistosomiasis is a focal disease and treatment should be focused on communities at risk

Number of people requiring PC for schistosomiasis 2010-2021 per region



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Methodology

- An update of the ESPEN country **schistosomiasis workbooks** (of subdistrict data) with the most recent M and E and impact assessment data (currently ongoing)
- HQ - ESPEN group work to set criteria (urban, urban area, availability of mapping /impact data for the subdistrict etc.) and review in details each country workbook according to the criteria set
- Country validation of the revised workbook
- Call and meetings with countries having issues in the validation
- Publication of the results of the review both on the WHO website and in a peer review journal

Outcomes

- Estimate of the number of people requiring PC for schistosomiasis, by country and by IUs (community or subdistrict)
- Revised country schistosomiasis workbook based on target treatment of schistosomiasis (community/subdistrict) and the new guideline
- Updated estimate and forecast of the need of praziquantel by age group (pre-school age children, school age children and adults)
- Sub-district mapping and impact assessment need

Criteria

- Classification of sub-district as urban or rural
- Exclusion of urban population: for district populations greater than 100,000 people, an urban-rural ratio, obtained from the World Bank, was applied to the population.
- Availability of data at subdistrict level
- Year of Baseline survey
- Year of impact surveys (Impact 1, 2, 3 etc.)
- Number of rounds of preventive chemotherapy
- Diagnostic techniques mentioned
- Use of the guideline recommendation for the estimates of medicine need
- Reduction of PC frequency after year 5 of MDA
- Utilization of 2 tablets of PZQ for SAC for medicine calculation and 3 tablets per adult
- Population growth: Bank W. Population growth (annual %): The World Bank; 2012. Available from: http://data.worldbank.org/indicator/SP.POP.GROW.

Schistosomiasis Analytical Workbook
New updates

Use case for SCH community data analysis tool

- Disaggregation of Epi data to community level
- Community level planning for interventions
- Quantification of estimated medicines needed at community level
- Part of JRSM (medicine application form for donated medicine) to refine medicine data

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New features (1)

- A single workbook featuring both English and French unlike the previous versions where English and French are separate tool
- Inclusion of additional population age groups:
  - Preschool children
  - Women of reproductive age (15-49 years)
  - Women of reproductive age (15-24 years)
- Population indicators (age group percentages) are harmonised with ESPEN database
- PC History indicators are incorporated from ESPEN Global PC database and Updates from countries (April and May workshops)
- Distinction of survey data into:
  - Baseline
  - Impact
- Community prevalence and endemicity are determined separately for Baseline and Impact
- Treatment strategy is determined according to the new guidelines using baseline and impact prevalence

New features (2)

- Community treatment Strategy is based exclusively on community prevalence data if available
- No more attribution of district endemicity to community
- No more attribution of neighbouring community endemicity
- Possibility to use transmission risk assessment data derived from other methods of estimation
  - Environmental data
  - Modelling

  (must be qualified as no transmission, low, moderate and high transmission)
- Hotspot communities are identified
- Treatments Needs Estimations
  - Number of people to be treated every year is estimated for the 5 age groups
  - Number of PZQ is calculated for each age group according to the treatment strategy
- Possibility to provide PZQ dosage for :
  - Preschool children, School children, and Adults
- Possibility to calculate provisional PZQ for communities under surveillance (those with prevalence less than 10% after impact)

New features (3)

Estimations of baseline mapping gaps

- Any community without baseline prevalence and without impact assessment
- Any community without baseline prevalence and without data on transmission risk

Estimations of impact assessment gaps

- Number of communities due for Impact assessment:
  - Community that has baseline prevalence data (low, moderate or high) but did not have any impact data and PC history indicates 5 or more rounds of PC
  - Community that have no baseline, no impact but being treated

Schistosomiasis Community Data Analysis Tool

Version 6 - September 2023

Worksheets Description

1	INSTRUCTIONS	General instructions and Collections of Parameters
2	Dictionary	Explanatrory notes on data items in the workbook
4	IU_DATA	PC implementation summary data of the IU
5	DEMO_DATA	Demographic and PC implementation data on the Community
6	EPI_DATA	Epidemiological data on the communities
7	GEO_DATA	Administrative units structures
8	DETAILS	Prevalence, Endemicity and Strategy Calculation
9	SUMMARY	Summary data on Endemicity, Strategy and Population
10	C_PREVALENCE	Prevalence Data of communities
11	D_PREVALENCE	Prevalence data of Distrcits
16	C_PROJECTIONS	Projections of PC implementation data at community level
17	D_PROJECTIONS	Projections of PC implementation data at district level
18	COMMUNITY_DB	Database of Projections of PC implementation data at community level
19	DISTRICT_DB	Database of Projections of PC implementation data at district level
20	STATS	Summary Data

Select language

Import data

Language:	**English**
Country:	**The Gambia**
Number of IUs:	**44**
Number of communities:	**1874**
Ignoring epidemiological data prior to:	
Calculation method of the community prevalence:	**Maximum**
Minimum sample size for maximum prevalence:	**15**
Threshold for population adjustment (%):	**0.00**
Reference year for the five-year plan:	**2024**
Use transmission risk data if available:	**Yes**
Attribute the prevalence of neighboring communities:	**No**
Attribute district prevalence to unmapped communities:	**No**
Estimate PZQ forecasts for routine monitoring:	**Yes**
Use survey prevalence for forecasting in PZQ for surveillance:	**No**
Percentage of population for PZQ forecasts for surveillance:	**1**
Praziquantel dosage for PreSAC:	**0**
Praziquantel dosage for SAC:	**2**
Praziquantel dosage for Adults:	**3**

Initialize forms

Run the selected tasks

- [x] Worksheets Initialisation
- [x] Prevalence and endemicities calculation
- [x] Sub-district endemicity attribution
- [x] Summary statistics
- [x] Treatment needs projections
- [ ] Community treatment projections database
- [ ] District treatment projections database

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Progress in treatment rounds and impact assessments in the African Region

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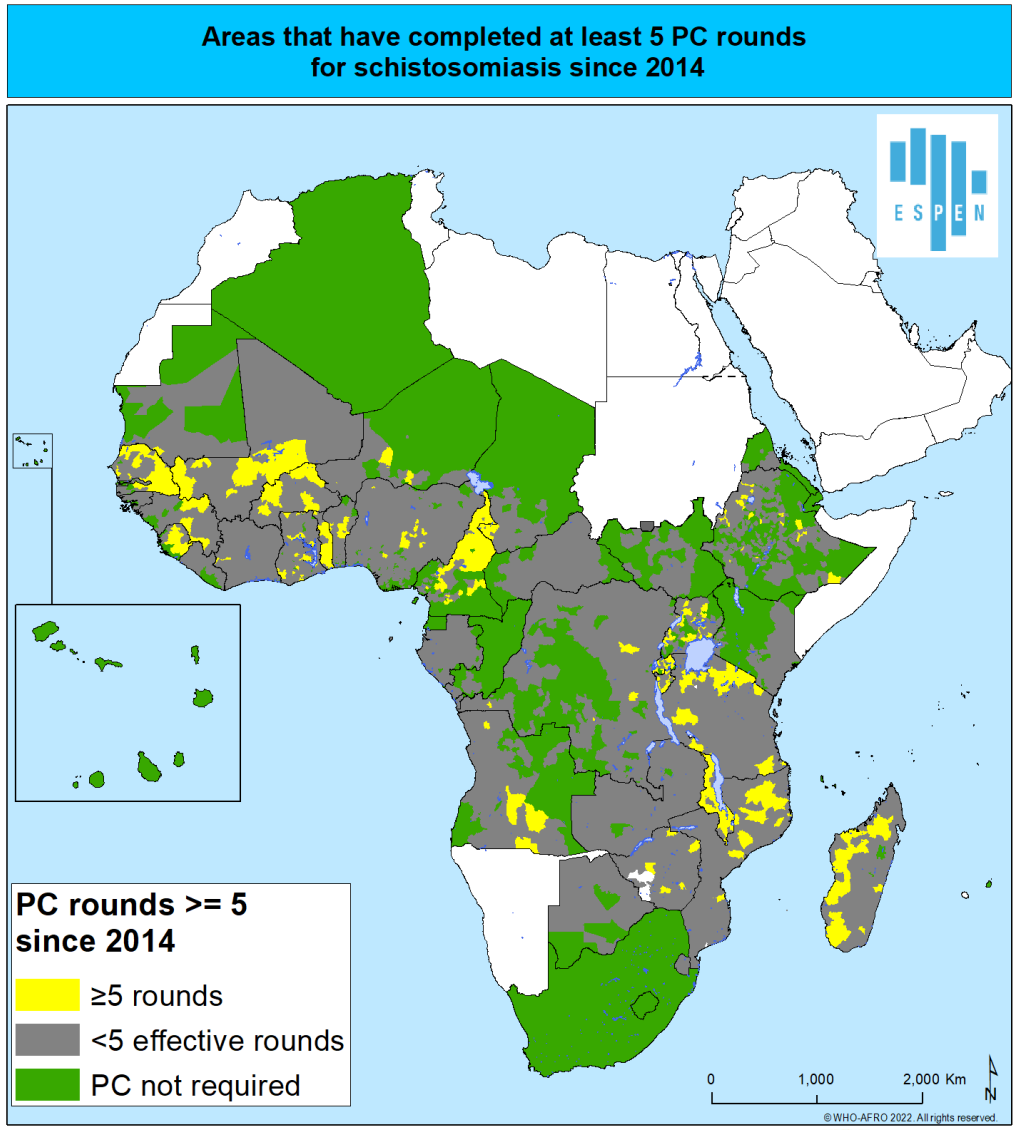
How many IU are expected to go through IA?



Country	No. Rounds Conducted	No. Effective Rounds	Status for Impact Assessment
Angola	8	6	Not done/No data
Benin	8	6	Ongoing
Burkina Faso	6	6	Done/Ongoing
Burundi	8	8	Done
Cameroon	8	8	Ongoing
Chad	5	5	Ongoing
Cote d'Ivoire	7	7	Not done/No data
DRC	7	6	Not done/No data
Ethiopia	7	7	Done
Ghana	6	6	Done
Guinea	5	5	Not done/No data
Madagascar	6	5	Not done/No data
Malawi	6	6	Not done/No data
Mali	6	6	Ongoing
Mozambique	6	6	Not done/No data
Niger	5	5	Not done/No data
Nigeria	8	7	Done
Rwanda	7	7	Done
Senegal	8	8	Done
Sierra Leone	5	5	Done
Tanzania	8	7	Ongoing
Togo	8	8	Ongoing
Uganda	6	6	Ongoing
Zimbabwe	6	5	Done

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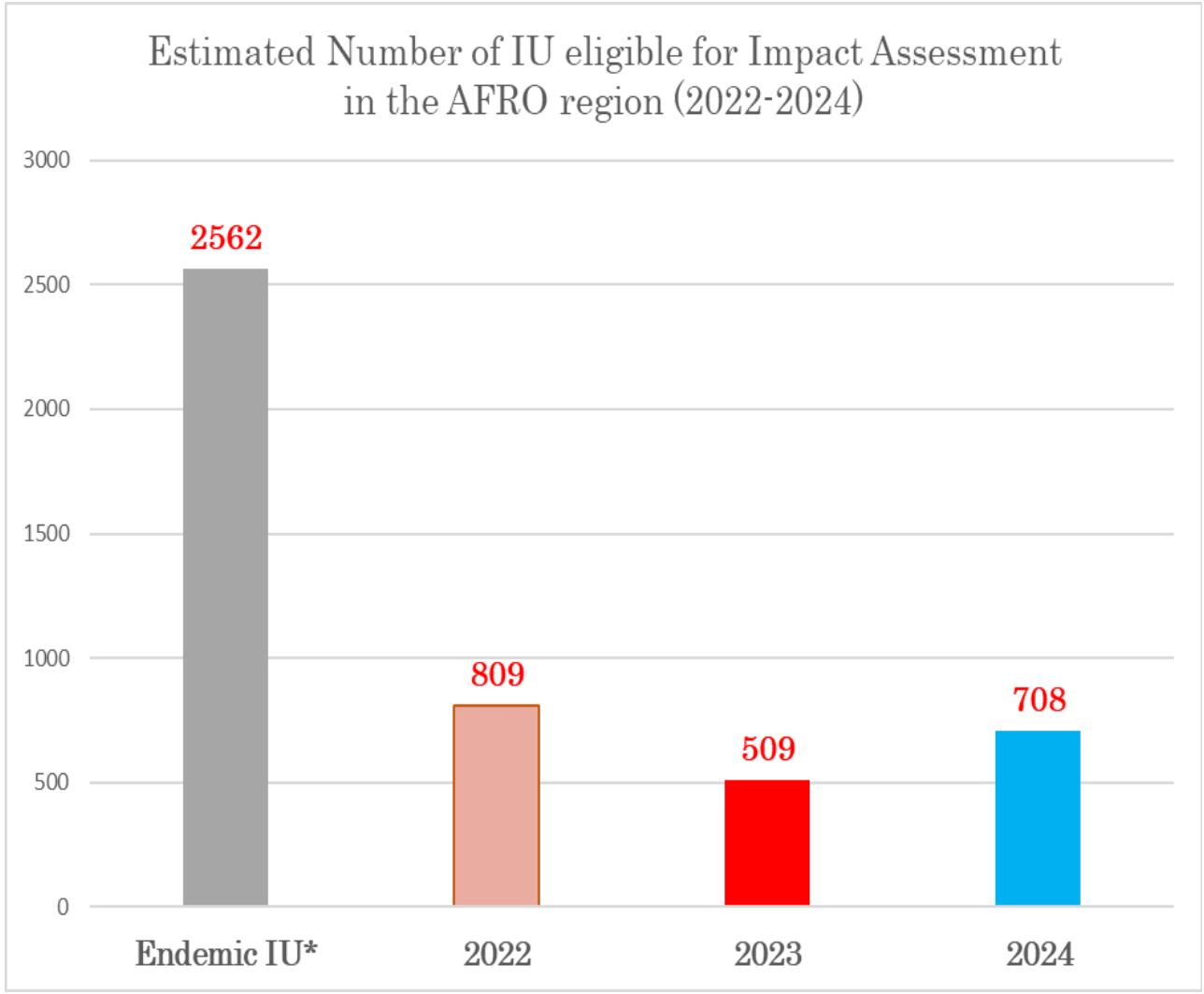
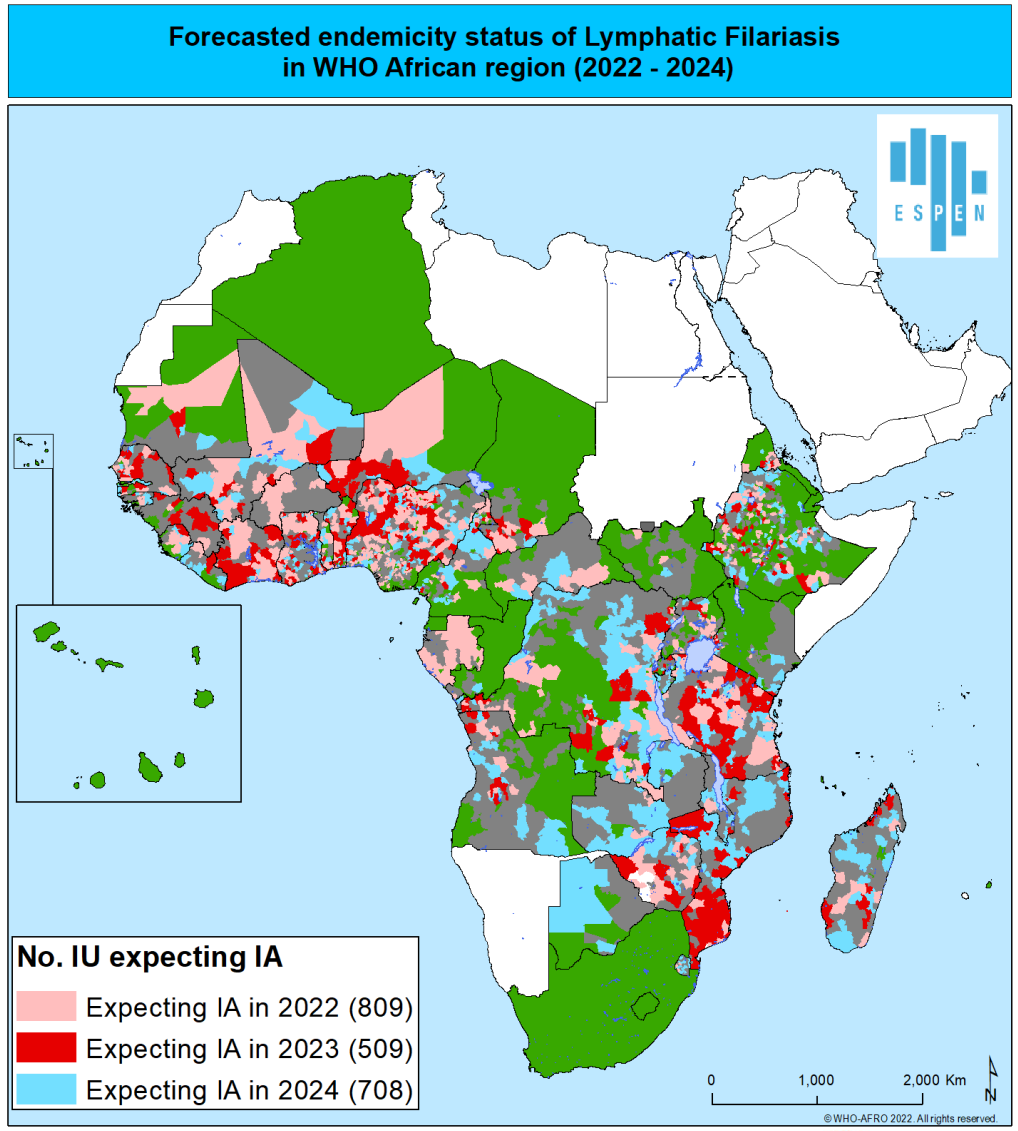
How many IU are expected to go through IA?





How many IU are expected to go through IA?

Country	Forecasted for 2022	Forecasted for 2023	SCH Surveys reported JRSM 2023
Angola	10	9	0
Benin	15	19	10
Burkina Faso	20	0	17
Cameroon	17	7	0
CAR	6	0	0
Chad	16	13	0
Congo	1	0	52
Cote d'Ivoire	45	37	0
DRC	80	42	0
Eritrea	11	3	0
Eswatini	4	0	59
Ethiopia	79	45	324
Gabon	31	0	0
Gambia	2	0	0
Ghana	48	38	0
Guinea	2	5	0
Guinea-Bissau	18	2	0
Kenya	6	8	0
Liberia	1	1	13
Madagascar	8	11	57

Country	Forecasted for 2022	Forecasted for 2023	SCH Surveys reported JRSM 2023
Malawi	2	1	28
Mali	18	12	8
Mauritania	4	1	9
Mozambique	7	56	0
Niger	11	25	0
Nigeria	224	83	11
Rwanda	0	4	0
Senegal	17	16	22
Sierra Leone	4	1	0
South Sudan	2	0	0
Tanzania (Mainlan	44	50	0
Togo	11	2	13
Uganda	24	8	7
Zambia	4	0	0
Zimbabwe	17	10	0
	809	**509**	**630**

Surveys not systematically reported through JAP JRSM do not clear collect survey type (Yes/*Blank*)

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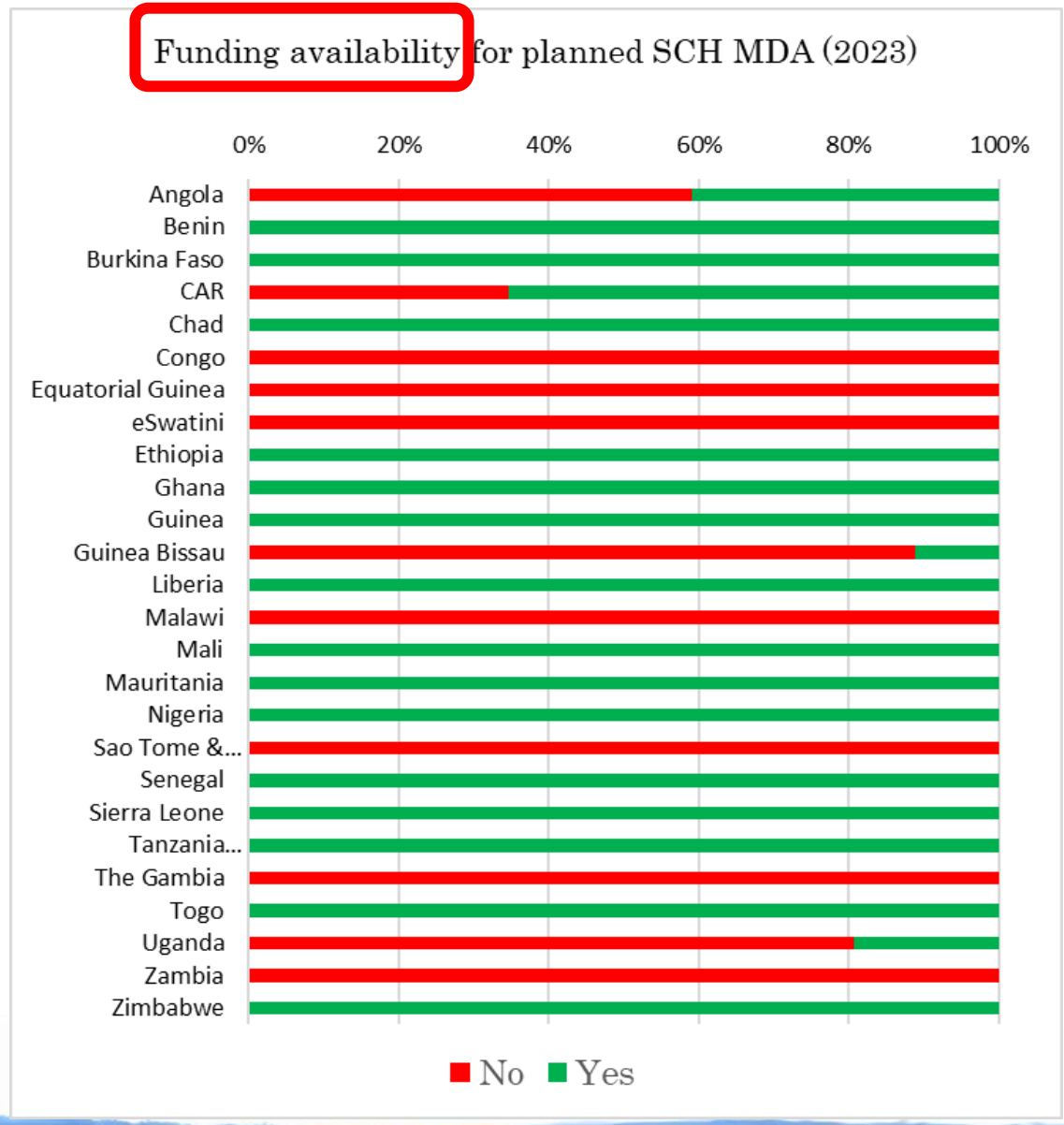
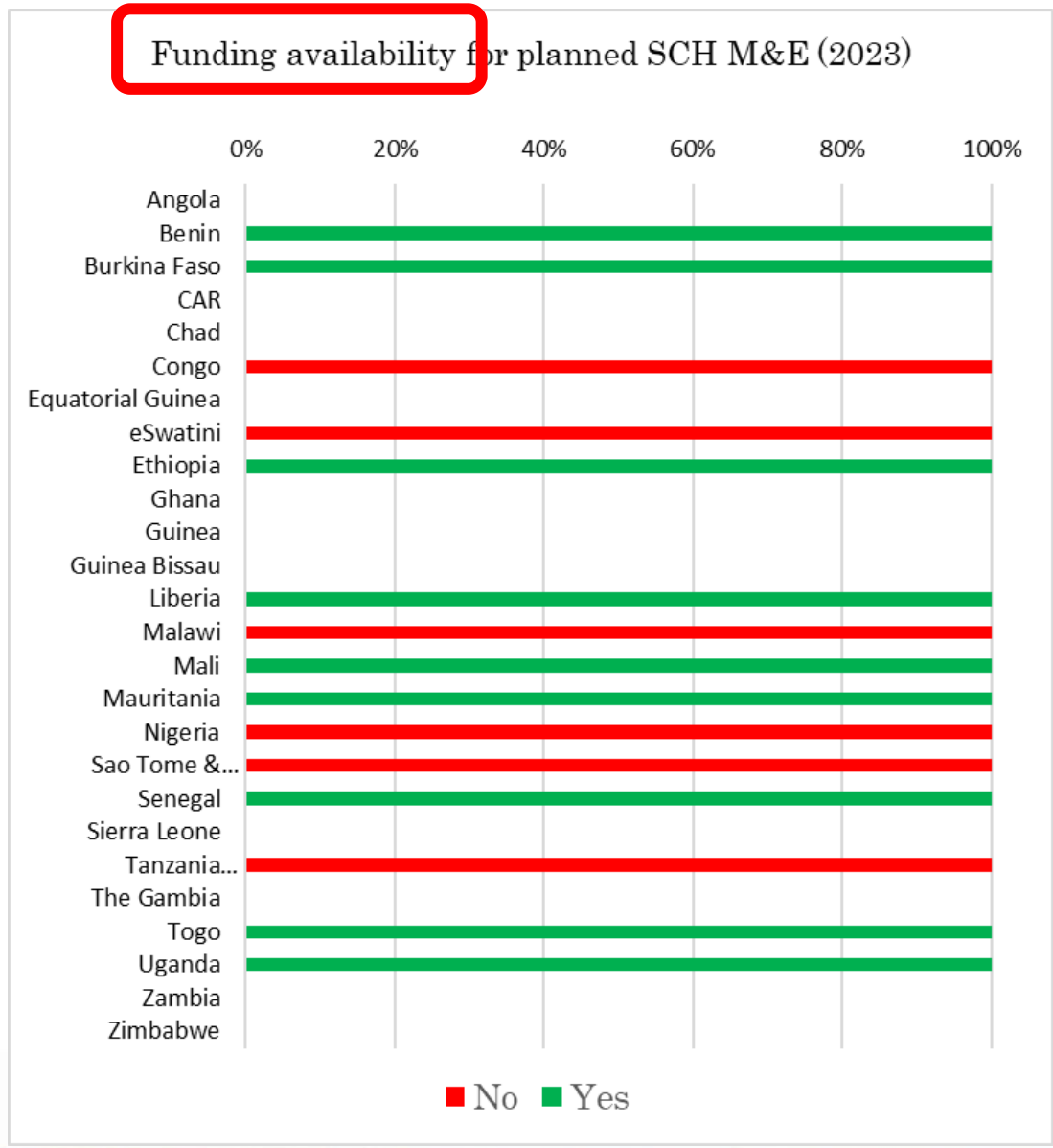
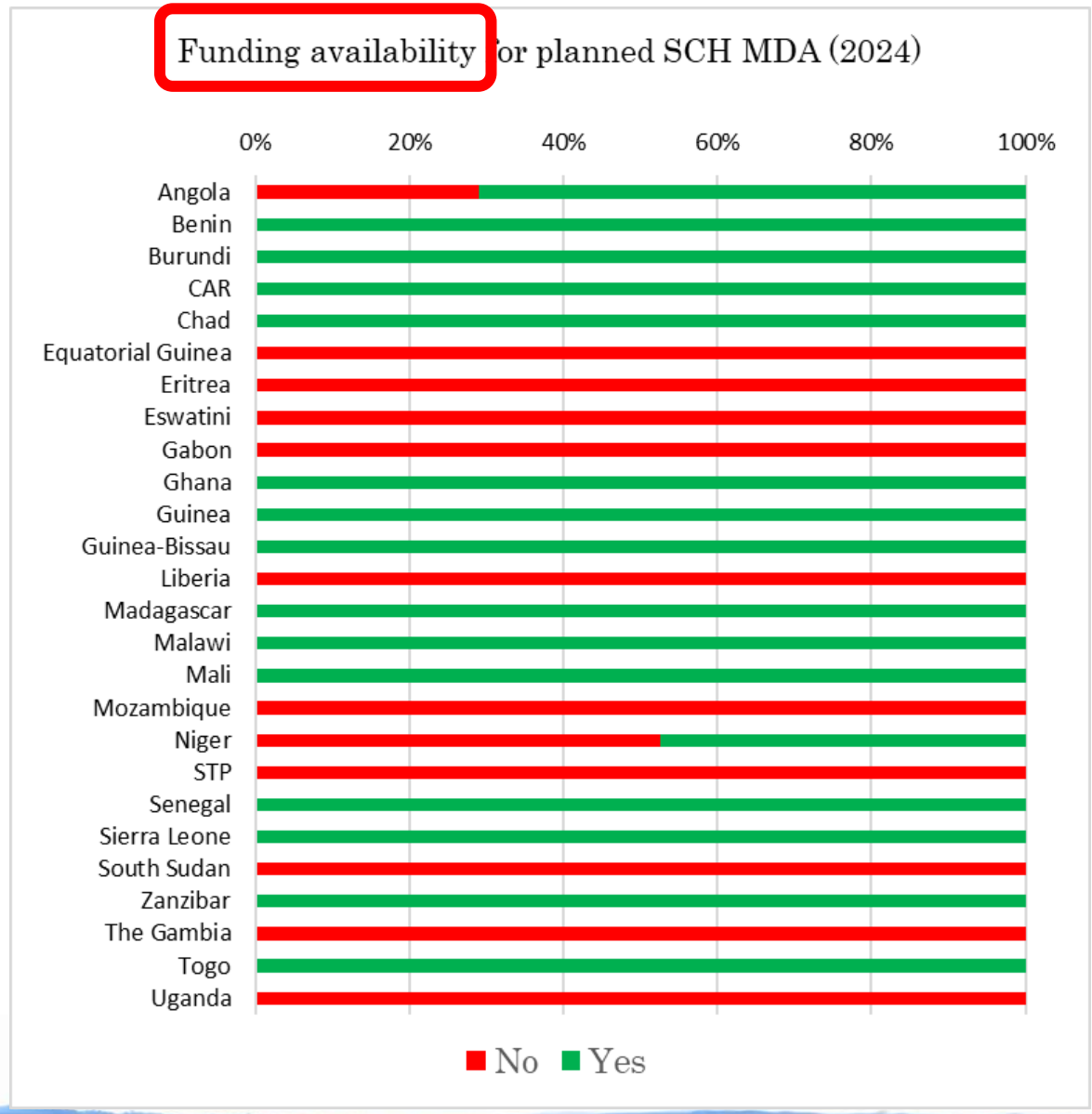
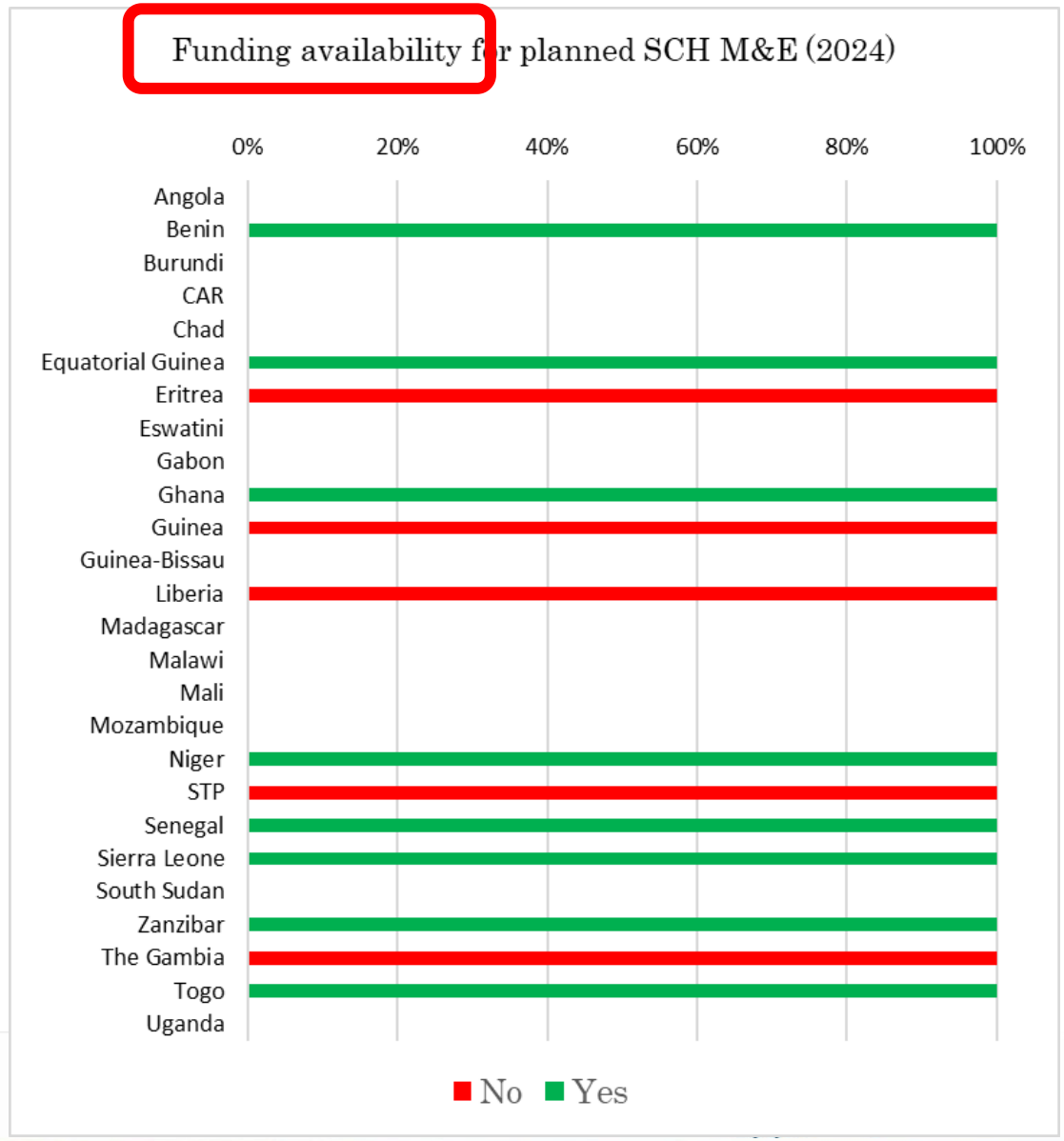
Why countries struggle to keep up the pace with IA?





Why countries struggle to keep up the pace with IA?





Overview on Findings

	2023		2024	
	26 countries		25 countries*	
	Funding needed	Funding secured	Funding needed	Funding secured
Population Requiring PC	91,072,284	318,976,198	93,843,113	211,753,859
Population Requiring PC for LF/ONC	37,788,061	230,391,600	34,764,107	92,371,640
Population Requiring PC for STH/SCH	58,733,257	170,010,170	66,043,091	171,067,288
Cost Estimate PC	$ 45,536,142.00	$ 159,488,099.00	$ 46,921,556.50	$ 105,876,929.50
Cost Estimate PC for LF/ONC	$ 18,894,030.50	$ 115,195,800.00	$ 17,382,053.50	$ 46,185,820.00
Cost Estimate PC for STH/SCH	$ 29,366,628.50	$ 85,005,085.00	$ 33,021,545.50	$ 85,533,644.00

Assuming average cost of US$ 0.5 per person treated

** JRSM report for Eq Guinea & Nigeria not yet uploaded to the ESPEN database, and 1 country (Cameroon) have not yet submitted the funding information.*

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Overview: Conclusions

- Sustained funding gaps reported for 2023 and 2024, although slight improvements in countries (20) submitting data both years, except for LF MDA.
- Countries are particularly struggling to find funding to cover deworming campaigns.
- Over 25% of the implementation units reporting data have allegedly not secured funding to cover the planned PC interventions for schistosomiasis in 2024.
- Over 91M people in 26 countries and 94M people in 22 countries are at risk of not receiving the needed PC interventions in 2023 and 2024, respectively, based on the reports received so far.
- The actual figures will be known when countries submit their treatment reports: JRF 2023 expected in first half of 2024, and JRF 2024 in first half of 2025.
- **It is possible to act to minimize the gaps in 2024.**

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Thank you

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