STH Advisory Committee Annual Meeting 2017

Report & Recommendations

This document summarizes discussions and presents key recommendations from the STH Advisory Committee meeting held in Baltimore, Maryland, USA on November 1-2, 2017

STH Coalition
THE STH ADVISORY COMMITTEE

The STH Advisory Committee (STHAC) is an independent group of experts in the areas of policy, strategy, research, and program implementation related to soil-transmitted helminthiasis (STH) control. Individual STHAC members are specialists in child health, clinical medicine, diagnostic sciences, education, epidemiology, parasitology, public health program implementation, spatial statistics, and water, sanitation and hygiene.

As the technical and scientific arm of the STH Coalition, the STHAC holds an annual meeting to address current programmatic and technical issues relevant to the global campaign to control STH. While considering the latest research, the STHAC formulates guidance to the World Health Organization, STH Coalition partners, implementers, pharma, and researchers. The 2017 meeting participants included STHAC members and observers (Appendix A). Children Without Worms serves as the secretariat for the STHAC.

Transitions

With deep appreciation, the STHAC chair, Prof. Juerg Utzinger, and the entire STHAC would like to thank those Committee members whose tenure ended in 2017: Drs. Oladele Akogun, Simon Brooker, and Charles Mwandawiro. As Committee members, they have made innumerable contributions to global STH control efforts. The STHAC notes with gratitude their thoughtful advice and guidance on a myriad of important technical issues facing implementation and research partners. In the coming years, the Committee looks forward to their continued contributions as colleagues and friends.

The STHAC chair, Prof. Juerg Utzinger, and the STHAC also welcome the new Committee members: Dr. Sultani Hadley Matendechero and Dr. Ajay Khera. Drs. Matendechero and Khera lead the national STH control programs of Kenya and India respectively. The STHAC appreciates the wealth of technical and programmatic expertise they will lend to STHAC deliberations and very much look forward to their contributions.

Publication date: This report was disseminated in January 2018. Please contact Children Without Worms (cww@taskforce.org) with comments or questions.

Disclaimer: Inclusion of information in this report does not constitute 'publication.'
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ACRONYMS
CWW  Children Without Worms
ESPEN  Expanded Special Project for Elimination of NTDs, World Health Organization – Africa Regional Office
M&E  Monitoring and Evaluation
MDA  Mass Drug Administration
MHII  Moderate to High Intensity Infection
NTDs  Neglected Tropical Diseases
PC  Preventive Chemotherapy
PSAC  Preschool-age Children
QA/QC  Quality Assurance/Quality Control
SAC  School-age Children
STHAC  STH Advisory Committee
STAG  Strategic and Technical Advisory Group, World Health Organization
STH  Soil-transmitted Helminthiasis
WASH  Water, Sanitation, and Hygiene
WHO  World Health Organization
WRA  Women of Reproductive Age
ANNUAL MEETING 2017

The 2017 annual meeting of the STH Advisory Committee was held in Baltimore, Maryland on November 1-2. It focused on how the current work toward World Health Organization-established STH control goals can be accelerated by 2020, and how gains can be sustained beyond that, particularly in light of the evolving body of scientific evidence.

SETTING THE STAGE

Important recent developments in soil-transmitted helminthiasis (STH) control policies and research guided the agenda and meeting sessions. These developments included the following:

- Meetings on STH diagnostics (Annecy, France, June 2017) and women of reproductive age (WRA) (Bellagio, Italy, June 2017);
- The World Health Organization (WHO) published new STH preventive chemotherapy guidelines in September 2017 including treatment for all risk groups: preschool-age children (PSAC) and WRA in addition to school-age children (SAC);
- Advances in diagnostics for drug resistance in human worms;
- Country-provided post-mass drug administration (MDA) parasitologic monitoring data and related requests from national MOHs for guidance on sustaining achieved public health impact;
- Studies on combination drug therapy and drug formulations against STH; and
- Development of a draft Monitoring and Evaluation (M&E) Framework to objectively assess, goal-linked progress of country implementation.

5th (2017) London Declaration Scorecard: The London Declaration Scorecard describes the progress of control and elimination efforts for ten Neglected Tropical Diseases (NTDs) including STH. The STH Advisory Committee (STHAC) reviewed the status of the global STH campaign, noting progress on preventive chemotherapy (PC) coverage; requests for donated drugs made and filled; and program support. The indicator on operational research demonstrated a need for additional attention to this area. STH received an overall ‘green’ score in the 5th London Declaration Scorecard.

6th (2018) London Declaration Scorecard: The STHAC discussed potential revisions to the STH section of the 2018 Scorecard. The intent would be to increase the use of quantitative data to measure global progress.

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1 The four parts of the Scorecard are as follows: 1) coverage and impact milestones; 2) program support milestones; 3) drug requests filled; and 4) research.
MEETING OBJECTIVES
Due to the above developments, existing knowledge gaps, and national STH program needs, the STHAC focused on furthering progress defined STH control goals for 2020 and beyond. Specifically, the STHAC deliberated on:

- Current WHO guidance to national STH programs on program monitoring and implementation (2010) to include risk groups other than SAC, and for sustaining the gains in STH control made to-date by countries including through lymphatic filariasis (LF) elimination programs;
- Monitoring and evaluating of national STH programs; and
- Defining a post-2020 agenda for STH control and elimination.

Guided by the STHAC Chair, Dr. Juerg Utzinger, STHAC members and meeting participants, addressed these objectives by:

- Reviewing recent research and its implications for STH policies and strategies;
- Considering emerging program needs;
- Exploring potential STH control end goals; and
- Formulating actionable recommendations for use by national STH programs, policy-setting bodies, implementers, donors, and researchers.

*The 2017 STHAC meeting agenda (with detailed objectives) can be found in Appendix B.*

Progress toward 2016 Recommendations
The STHAC reviewed progress toward its 2016 annual meeting recommendations, as summarized below.

Achieved 2016 Recommendations

- **WHO to identify countries with known barriers that may restrain national deworming programs:** In late 2016, WHO produced an analysis of countries requiring PC for STH and the intervention coverage rates. This was a one-time action and circulation was limited. Ongoing updates are needed.

- **Include WASH indicators on the London Declaration Scorecard that align with the 2020 sustainable development goal #6:** Water, sanitation, any hygiene (WASH) indicators were included on the London Declaration Scorecard as coverage and impact indicators.

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2 Sustainable Development Goals #6 is clean water and sanitation access. See: http://www.undp.org/content/undp/en/home/sustainable-development-goals.html
• Include indicator on the London Declaration Scorecard for deworming of all high risk groups, including WRA: The Uniting to Combat NTDs Support Centre did not accept this indicator due to lack of available data on WRA preventive chemotherapy. It will be considered for inclusion when more data become available.

• WHO to develop and publish guidelines for deworming of WRA: In September 2017, WHO released guidelines for PC to control STH in all at-risk groups. In addition, the WHO-authored Bellagio meeting report will provide updated guidance for STH control among WRA. Expected publication of the Bellagio Declaration is in early 2018.

2016 Recommendations in Progress

• Global partners to provide technical assistance to national programs: WHO is developing a comprehensive “STH Vision to 2020 and beyond” document with input from partners. The document will: 1) review the current status of the global STH control program; 2) present current successes and challenges; and 3) present a post-2020 strategy(-ies).

• Improve measurement of morbidity due to STH: WHO provided a new estimation of disability adjusted life years caused by STH, and there is a need to measure and report on intensity of STH infections.

• Development of parasitologic monitoring guidelines that align with WHO goal of <1% moderate-to-high-intensity infection (MHII) by 2020. The STHAC agreed to transition from exclusive treatment coverage goals to measuring the prevalence of MHII. The STHAC expects specific, related guidance from WHO in early 2018.

• Encourages WHO to share decision making guidelines for program managers to respond to foci of persistent ‘unexpectedly high’ STH transmission: WHO, with support from Children Without Worms and other partners, developed a guidance document which the WHO Strategic and Technical Advisory Group (WHO STAG) is now considering.

• Prevalence vs. intensity relationships post-MDA investigated: There were several studies completed in low-prevalence, post-MDA settings which were presented at the 2017 annual STHAC meeting. Modelling is also addressing the topic as is the DeWorm3 study, results of the latter are expected around 2022.

• Monitoring guidelines improved in revised strategic plan to capture the <1% MHII end goal: Currently, there is a diagnostic barrier to detect <1% prevalence of MHII. There is a need for more sensitive diagnostic tools to apply this recommendation. CWW has drafted a Monitoring & Evaluation Framework which provides guidance on conducting parasitologic surveys to measure progress toward this goal. The framework

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requires WHO review and endorsement. Additional end goals may also need to be included and similarly addressed.

- **Urges WHO to form an accessible process for prequalification of manufacturers of deworming drugs:** A STH Coalition survey helped define the needs in this area; USAID has secured US Pharmacopeia support on production of quality generic deworming drugs.

- **Develop a guidance document for NGOs to improve PC reporting in PSAC:** The STH Coalition is supporting this effort, but no guidance document has yet been developed. The STH Coalition held a data quality workshop at their September 2017 meeting, and continues to define methods to improve data collection and reporting by ministries of health and their NGO partners.

- **Develop guidelines for LF-to-STH transition endorsed by WHO:** USAID is developing a decision algorithm. The STH Coalition is ready to help disseminate this guidance to implementers once available.

- **Encourage rigorous, multi-center evaluations and strategic developments for larger-scale application of PCR diagnostics in the field:** Partners, including those linked through the STH Coalition, are field testing PCR-based diagnostics. Also, partners secured partial funding for developing sensitive diagnostics for mapping human worm resistance to benzimidazoles.

**Recommendations with no action**

**WHO to report sub-national coverage data and the number of STH-endemic districts:**

There has been no progress.

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**2017 Acknowledgements and Recommendations:**

The STH Advisory Committee acknowledges the important progress made in the past year to further STH control. Specifically, the STHAC:

- Applauds the inclusion of all at-risk populations in WHO preventive chemotherapy guidelines published in September 2017.

- Acknowledges WHO for its inclusion of evidence-informed policy making and further encourages the use of expert advice from across the STH community in policy decisions.

- Congratulates the [Expanded Special Project for Elimination of NTDs (ESPEN)](https://www.who.int/esp/en/), a project of the WHO Regional Office for Africa, on its groundbreaking work and encourages its expansion.

- Applauds the progress by national STH programs and their partners towards the WHO-defined STH control goals.
• Recognizes the significance of the Bellagio meeting and ensuing recommendations as an essential step in treating WRA.
• Applauds the inclusion of Ivermectin and Albendazole (dual drug therapy) on the WHO List of Essential Medicines.

The 2017 STHAC meeting recommendations are shared below. A summary of related, supportive evidence from meeting presentations and discussion follows each recommendation. Text boxes contain related STHAC viewpoints.

Recommendation #1
A comprehensive monitoring & evaluation (M&E) framework tied to defined STH endpoints is critically needed.

STHAC members, USAID, and observers expressed a need for a comprehensive M&E Framework that is tied to clearly-defined end goals. CWW drafted the document and shared it at the meeting. The framework will guide national STH programs in process monitoring and measuring progress towards their defined goal(s). It will also help donors identify resource gaps and understand impact. The M&E sub-committee of the STHAC, with specific national STH control programs, will review the framework. The finalization process will entail technical review and field testing, followed by presentation (in early 2019) of the document to the WHO STAG for review and endorsement.

Additionally, below we share the following related discussions:

• The STHAC recognized the need for subnational data across risk groups and their respective intervention delivery platforms. Discussions highlighted the need for national programs to have and use more granular data so as not to mask heterogeneity.
• Participants expressed a desire to monitor hookworm prevalence and intensity of infection by sub-species; cure rates and egg reduction rates differ by species.
• There is a need to monitor PC among all risk groups, rather than focusing primarily on SAC. To this end, partners, namely national STH programs, are increasingly considering community-based monitoring surveys – for example, the survey methodology CWW developed. The burden of STH, especially hookworm, cannot be accurately assessed by conducting surveys solely among SAC.
• Collecting compliance data is important to accurately determining treatment coverage, both for modeling efforts and to monitor program intervention delivery. Health education, social mobilization, and training are important supplementary interventions to deworming, as they increase compliance.
Hard-to-Reach Populations
To control STH in many countries, partners will need to address STH in infected refugee, internally displaced, and other migrant populations. Data granularity is important here to identify gaps in intervention delivery and infection hot spots even as overall prevalence in a country may be decreasing (e.g. Rohingya in Bangladesh).

Impact of MDA
Observed impact of community-based MDA is similar to that predicted by modeling; models rely on quality field data to set parameters. The prevalence of MHII varies widely, even in localized settings. Using parasitologic monitoring data to target interventions can be useful, especially when overall prevalence is low. Assessing current disease epidemiology is a logical next step after several years of MDA. Additionally, accurate PC coverage rates help programmers correctly assess MDA impact (or the lack thereof), and more accurately plan drug and resource needs.

The STH Advisory Committee states the following in support of the proposed comprehensive M&E Framework recommendation:

- Urges WHO to clarify the ultimate goal/endpoint for STH. This will frame strategies and interventions – e.g. how morbidity in each risk group (i.e. PSAC, SAC, and WRA) is assessed.
- Standardize, where possible, survey designs and units of analysis in the interest of data comparability and interpretation across countries and populations.
- Encourages countries to conduct and use parasite-specific prevalence and intensity mapping after multiple years of MDA. These data should be made available to STH partners.
- Consider inclusion of refugee and migrant populations in the M&E Framework.
- Supports commitments made by the STH Coalition, partners, donors, and CWW to assist national programs to develop and implement activities necessary to achieve the WHO goal of elimination of STH as a public health problem.

Recommendation #2
WHO should provide further guidance on deworming women of reproductive age.

According to WHO, approximately 250 million women and girls live in STH-endemic areas. In June 2017, WHO convened a meeting on STH and WRA in Bellagio, Italy. Partially as a result, in September 2017, WHO released revised STH PC guidelines which included WRA. While

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meeting participants welcomed the development, they also discussed the need for further clarification of guidelines, specifically to define coverage targets, implementation strategies, and methods to validate impact on WRA and PSAC. Additionally, the successful expansion of STH control efforts to WRA requires an improved understanding of STH epidemiology and identification of delivery platforms for WRA. Further parasitologic program monitoring data and operational and behavioral research are needed in these areas, and partners should analyze and use the experience of LF elimination efforts.

Implementation platforms
WRA have four overlapping sub-groups (Gyorkos) based on available delivery platforms: antenatal care facilities, schools, the workplace, and community-based public health delivery structures. Further review of potential platforms and challenges is needed.

Safety concerns regarding treatment of women in first trimester of pregnancy
Clinical trials to monitor adverse events among pregnant women are not feasible for ethical reasons; therefore, we lack drug safety data for WRA. Both mebendazole and albendazole are contraindicated for women in the first trimester of pregnancy as reflected in existing WHO guidance. Methods to cost-effectively identifying women who may be in their first trimester are undefined and thus require further study. WHO has developed a simple questionnaire to identify and exclude women in their first trimester of pregnancy, and plans to field test the tool in late 2018.

Supporting the guidance on WRA, the STH Advisory Committee endorses the Bellagio Declaration. The Bellagio Declaration states that “every girl and every woman of reproductive age who is infected with soil-transmitted helminths has the right to be treated.”

Recommendation #3
There is an urgent need to develop, standardize, and use improved diagnostics to identify progress towards defined end-points
The STHAC highlighted an urgent need for more sensitive and field-friendly STH diagnostics. Currently, Kato Katz is the most common diagnostic method. It is difficult to use in the field and has low sensitivity.

qPCR
qPCR is a possible diagnostic improvement based on field studies presented at the meeting. It has higher sensitivity and is easier to use for community surveys than Kato Katz. However, specificity can be problematic in pooled samples because of contaminants and the presence of non-STH parasites (DOLF). Genetic analysis of parasites through chip-assisted, multi-strand gene amplification technologies can yield much-needed information on resistance and
transmission dynamics. Results presented by Dr. Richard Bradbury show that use of Kato Katz can lead to misidentification of eggs.

**Advanced diagnostic methods**

In partnership with the Bill and Melinda Gates Foundation, Smith College, and the NTD Support Center, studies are ongoing to identify, standardize, and field test advanced diagnostic methods. Dr. Steven Williams presented possible improvements to existing PCR methods, particularly for field use. Notable findings include:

- Ethanol as the optimal preservative for molecular-based diagnostics in both cost and efficacy.
- Ongoing testing of a DNA extraction that does not require DNA purification kits has shown encouraging results. “No kit” extraction lowers cost and simplifies field application for PCR.

In his presentation, Dr. Williams noted that molecular diagnostic methods improve specificity (over Kato Katz) and are sensitive down to one egg in a sample. Diagnostics that yield higher sensitivity than microscopy are essential for national STH programs working toward the WHO goal of elimination of STH as public health problem (i.e. <1% prevalence of moderate to high intensity infection).

The STHAC state the following in support of Recommendation #3:

- Acknowledges the emerging research on diagnostics and encourages its support by partners. Focus areas should include test cost, ease of use, and sensitivity relative to defined end points.
- Acknowledges a need to increase coordination among researchers on new diagnostics to improve efficiency and planning - from test development to application.
- Acknowledges a continuing need for comparative research between molecular and microscopic diagnosis.
- Encourages partners to link emerging diagnostic work with field use.
- Underscores the need for standardization of diagnostic techniques, namely for measuring national program progress toward elimination of STH as a public health problem.

**Recommendation #4**

**Define the use-cases for Combination Therapies to enhance drug efficacy**

Drug resistance in STH species is a real possibility. Concerns continue about single-drug efficacy across STH species. More research is needed to explore the effect and use of combination drugs for STH control.
Drug combinations, particularly the addition of ivermectin to albendazole or mebendazole, would enhance PC efficacy. The addition of ivermectin to treatment with benzimidazoles would be particularly important for controlling Trichuris and hookworm. WHO has now included the combination of ivermectin and albendazole in its essential drugs list for LF elimination in Asia. This is positive progress, but more studies are needed.

Regarding Recommendation #4, the STHAC acknowledges the emerging research on combination drug therapy and encourages its expansion to additional drugs.

**Recommendation #5**

**Understand, identify, and quantify potential drug resistance**

After years of STH MDAs with benzimidazoles, drug resistance in parasitic worm species infecting humans is possible based on the veterinary experience. Also, drug efficacy across STH species in humans continues to be a concern that requires further research studies.

**Resistance**

Following years of monotherapy, the STHAC identified the detection and mitigation of drug resistance in human parasites as a key priority. Speakers cautioned that waiting for the detection of clinical resistance will prevent effective interventions to stop resistance from developing. Thus, there is an urgent need to support the development of sensitive diagnostic techniques. These techniques are important for the timely detection of drug resistance-related mutations in parasite populations under drug pressure. Countries which have conducted years of MDA, have low prevalence, and remain with foci where substantial proportions of the population have moderate to high intensity infections are particularly likely to have resistant parasites. Researchers should prioritize these countries for monitoring – when such diagnostics are available.

In 2017, the STH Coalition brought together Drs. Gilleard, Bradbury, Kaplan, and Cools for the first time to discuss the details of their research on resistance. The researchers agreed to collaborate throughout their projects to develop the diagnostic test, perform quality assurance/quality control (QA/QC), conduct field testing, and use case trials in a phased, coordinated manner over the next 2-3 years. Partners developed a joint concept note to outline this collaboration and activities are partially funded with additional funding needed.

**Genomic Resistance Testing**

Existing test methods are unsuitable for high through-put anthelmintic resistance screening due to their labor intensive nature. Genomic study is preferred over phenotypic, as interventions can be implemented at an early resistance stage, but once phenotypic resistance has led to clinically detectable resistance, it is too late to mitigate. Presentations by CDC, University of Calgary, Smith College and University of Ghent highlighted different approaches to allele mapping.
University of Georgia is developing animal models to culture resistant worms for QA/QC studies (partially supported so far).

Regarding Recommendation #5, the STHAC further:
- Recommends the development of new diagnostic tests for early monitoring of resistance.
- Recognizes the urgency of monitoring for resistance.
- Recommends the consideration of including resistance markers in future studies wherever possible.
- Confirms the urgent need to fund program-supportive resistance monitoring research.
- Calls for this research to be used to understand, identify, and quantify potential resistance and approaches to mitigate development of resistance.

**Recommendation #6**
**Align with the WASH Sector by including WASH indicators in STH monitoring**

WASH interventions are potentially important contributors to STH control efforts. Monitoring PC and WASH indicators will be vital in global STH control efforts.

The STHAC acknowledged that the WASH studies in Bangladesh (Freeman) and Lao PDR (Ercumen) were important contributions to the body of evidence in this area and required substantial resources to conduct. Meeting participants discussed the need for conducting focused, well-designed WASH studies. Longitudinal studies of WASH interventions would be valuable.

Regarding WASH, the STHAC strongly supports:
- Inclusion of WASH indicators as part of the STH monitoring.
- Use of data to advocate for WASH targeting in STH-endemic areas.
- Increased operational research and advocacy towards normative inclusion of STH-related WASH behaviors in WASH policy and program.

**Recommendation #7**
**Craft the Beyond 2020 Vision Document in partnership with WHO**

As the WHO-established 2020 target approaches, the STH community should evaluate progress, identify challenges, and define a clear way forward. The concept for a WHO-initiated Vision document was presented, reflecting inputs from STH stakeholders, to help define achievable, evidence-based goals and programmatic strategies beyond 2020.

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5Links withheld pending completion of studies and author permission to share.
WHO, CWW, STHAC, the STH Coalition, and donors have begun a strategic assessment of the global campaign, reviewed its successes and challenges, and begun to define a post-2020 strategy. Many partners have expressed the need for clearly defined, achievable, and measurable end goals. The post-2020 strategy should include all risk groups and highlight sustainability plans for accomplishments.

The Vision document will define and present the assumptions for forecasting drug needs to 2020 and beyond for all risk groups based on different stages of national program maturity. Authors will consider and incorporate current WHO guidance and implementation partner perspectives including from national programs, donors, and other stakeholders.

**Tiered Approach**
The STHAC endorsed a tiered approach, based on developmental stages of national STH programs, for planning and monitoring programs as proposed in the draft M&E Framework.

Regarding the Vision document, the STHAC welcomes the opportunity to provide inputs and endorses using a tiered approach for evaluation.

2017 Annual STH Advisory Committee meeting participants, Baltimore, MD
## Appendix A – Participant List

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</tr>
</tbody>
</table>
### STH Advisory Committee Members

<table>
<thead>
<tr>
<th>Name</th>
<th>First Name</th>
<th>Last Name</th>
<th>Organization</th>
<th>Email</th>
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<tbody>
<tr>
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</tbody>
</table>

Names indicated in **Bold** are STH Advisory Committee Members.

*The STHAC acknowledges its new member, Dr. Ajay Khera who was unable to attend but generously provided presentation content which was presented at the meeting.

Other partners consulted regarding the meeting but who were unable to attend:

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<tr>
<th>First Name</th>
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<th>Organization</th>
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<tbody>
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Appendix B – Meeting Agenda

Objectives and Agenda
Soil-Transmitted Helminthiasis Advisory Committee
2017 Meeting Objectives
Lord Baltimore Hotel, Baltimore, Maryland, USA

The 2017 annual meeting of the Soil-Transmitted Helminthiasis (STH) Advisory Committee is planned for Wednesday 1st and Thursday 2nd November, with a later closed-door session for invited Committee members on 2 November. There is a critical need to develop a data-driven guide to the STH end-game discussion on late-stage program function, end game processes and surveillance. This year’s agenda has been set with program-focused research and field experiences from countries approaching the post-MDA reduced transmission scenario and that are now considering changing their intervention frequency but concerned about losing the gains. Other important developments in STH control have captured our attention during the past 12 months, including:

- WHO updates and emerging priorities
  - New, country/regional parasitologic survey data (Western Pacific Region (WPRO), India, AFRO portal)
  - Updates: preventive chemotherapy and transmission control (PCT) for women of reproductive age (WRA), status of updated Guidance for Countries from the December 2016 Geneva Consultation and the “unexpected results” document
- Some countries have conducted parasitologic surveys demonstrating impact of mass deworming efforts. These countries are now ready to proceed to WHO 2011 guidance on reducing the frequency of MDAs when MHI prevalence is <20%. Questions remain about the effectiveness of this strategy to sustain the gains in MHI suppression. New field study results addressing this and areas of persistent high transmission, will be shared from Togo, Bangladesh and Philippines.
- New modelling and survey findings from post-MDA, low transmission areas (Dunn, Wash. University)
- Key meetings on STH diagnostics (Annecy, France; 11-14 June) and WRA (Bellagio, Italy; 27-30 June) and diagnostic research updates: summary findings focusing on timelines for availability and how programs may be impacted by new diagnostics; qPCR protocols in the pipeline (Univ. of Ghent, NIH, CWW/NTD-SC); resistance testing in human infections (CDC/UGA/Univ. of Calgary/CWW, Starworms); and post-PCR, cutting edge NTD/STH technologies (CDC/UGA)
- New data on combination drug therapy and regimens, new formulations against STH

The 2017 STH Advisory Committee will review and deliberate on these developments and new data in the context of providing technical guidance on the following:

- Interim recommendations on monitoring and decision-making for national program managers desiring to achieve the WHO goal of ‘eliminating STH as a public health problem’ by 2020, particularly related to STH in risk groups other than school-aged children (SAC)
- Status of lymphatic filariasis (LF) transition and subsequent STH “high-threat” programs: identify criteria and program elements to prioritize action (USAID and WHO data from LF)
- The contours of a post-2020 agenda for STH control.

The objectives for the 2017 STH Advisory Committee meeting are to:

1. **Assess progress, challenges, and priorities toward achieving the WHO 2020 milestones**
   a. Update from WHO: data behind guidance (WPRO, India, AFRO)
   b. Adding WRA as an additional priority risk group for interventions
   c. Data from modeling and field studies informing post-MDA surveillance

2. **Review recent research and its applications/challenges to STH control strategies**
   a. Washington University/Bill & Melinda Gates Foundation longitudinal study (Sri Lanka); results from the post-certification STH study in Togo (Togo MOH/HDI/CWW); Philippines experience with multiple MDAs and persistent high transmission; modeling data from Imperial College: Implications for the post-2020 STH agenda; Kenya, TUMIKIA studies, RCT results on postpartum deworming (Peru), etc.
   b. STH diagnostics: updates from Ghent, Steve Williams, Annecy, NIH, and CDC/UGA on new diagnostics and resistance testing in human specimens
   c. New drugs, drug formulations, and drug combinations for STH control
   d. New results on STH effects of WASH interventions (Laos, Kenya)

3. **Provide technical guidance and interim recommendations for use by national STH programs**
   a. Interim recommendations on STH monitoring for risk groups other than SAC (including for out-of-school children)
   b. Recommendations for investigating foci of unexpectedly high STH transmission in settings where PC has been ongoing
   c. Survey methodology recommendations considering addition of WRA, sustainability and resource efficiency

4. **Provide input to WHO on revising its STH strategic plan for 2020 and beyond**
   a. Achieving/clarifying the WHO 2020 goal of eliminating STH as a public health problem
   b. Approaches to program assessment and decision-making after several years of MDA
   c. Measuring the deworming gains made against STH by 2020, and sustaining beyond that
   d. Forecasting needs, trajectories of impact and develop scenarios based on current knowledge
   e. Recommend a way forward with clear STH goals, resource and program needs and metrics along the way.
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
<th>Materials</th>
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<tbody>
<tr>
<td>7:45 – 8:30</td>
<td>Breakfast</td>
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<tr>
<td>8:30 – 9:10</td>
<td>1. Opening session</td>
<td>Utzinger All</td>
<td><a href="#">Participant list 2016 meeting report</a></td>
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<td>a. Welcome, objectives, and announcements (15’)</td>
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<td>b. Introductions (15’)</td>
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<td>c. Implementation of recommendations from 2016 STH Advisory Committee meeting (10’)</td>
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<td>9:10 – 9:45</td>
<td>2. Updates: progress and challenges in global STH control</td>
<td>Utzinger Belizario</td>
<td>Meeting objectives, background &amp; agenda</td>
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<td></td>
<td>a. Growing momentum in STH control – research highlights, gaps &amp; priorities for the STH Advisory Committee (20’)</td>
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<td>b. STH Coalition &amp; London Score Card updates (15’)</td>
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<td>2. Post-MDA surveillance? (field studies &amp; modeling data from low prevalence scenarios)</td>
<td>Bronzan Karim Hernandez Dunn Dunn Fischer</td>
<td><a href="#">ICSPM manual</a></td>
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<td>a. Togo study: results (15’)</td>
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<td>b. Bangladesh ICSPM &amp; STH data (15’)</td>
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<td>c. Philippines experience (15’)</td>
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<td>d. Imperial College modeling (15’)</td>
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<td>e. LCNTDR – Myanmar study (10’)</td>
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<td>f. Washington University DOLF study (10’)</td>
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<td>g. Discussion: Do country experiences &amp; modeling data indicate further evaluation of current WHO country guidance? Identify specific, unfunded operational research (OR) gaps (25’)</td>
<td>All: moderated by Prof. Utzinger</td>
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<td>9:45 – 10:00</td>
<td>Break</td>
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<td>10:00 – 11:55</td>
<td>4. Updates &amp; implications for STH control</td>
<td>Utzinger Sultani Pullan All</td>
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<td>a. Swiss TPH (10’)</td>
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<td>b. Kenya NSBDP (10’)</td>
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<td>c. TUMIKIA study results (10’)</td>
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<td>11:55 – 12:55</td>
<td>Lunch Break</td>
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<td>12:55 – 1:45</td>
<td>5. WASH studies with STH implications:</td>
<td>Freeman Ercumen All</td>
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<td>a. Laos cohort study results (10’)</td>
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<td>b. WASH-BENEFITS results (10’)</td>
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<td>d. Discussion (20’)</td>
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<td>2:35 – 2:50</td>
<td>Break</td>
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<td>2:50-4:00</td>
<td>6. Operational research – updates and implications for STH control. Resistance monitoring and diagnostics</td>
<td>Cools Williams Bradbury</td>
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### Day 2 – Thursday, November 2, 2017

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<tr>
<td>7:45 – 8:30</td>
<td><strong>Breakfast</strong></td>
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<td>8:30 – 9:45</td>
<td><strong>Research</strong></td>
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<td>7. Meeting updates: implications for STH control, WRA guidance</td>
<td>Brooker</td>
<td>2016 PCT Data Chart (WER)</td>
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<td>a. 2017 Annecy meeting update (10’)</td>
<td>Brooker</td>
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<td></td>
<td>b. Alternative drug combinations (15’)</td>
<td>Gyorkos</td>
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<td>c. WRA/Bellagio meeting update (10’)</td>
<td>Gyorkos</td>
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<td>d. RCT results on postpartum deworming - Peru (15’)</td>
<td>All</td>
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<td>e. Discussion (25’)</td>
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<td></td>
<td>a. Current status &amp; progress towards 2020 milestones</td>
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<td>b. National program performance (country groups by coverage/impact), 2016 PCT data</td>
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<td>c. STH treatments by NTD</td>
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<td>d. New WHO Guidelines</td>
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<td>e. WRA Approach</td>
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<td>f. Discussion (25’)</td>
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<td>10:30 – 10:45</td>
<td><strong>Break</strong></td>
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<td></td>
<td>a. Data quality &amp; access: ESPEN experience (15’)</td>
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<td>b. An NTD/STH M&amp;E Framework (15’)</td>
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<td>c. STH coverage through LF elimination: USAID experience and data (15’)</td>
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<td>d. Forecasted data needs for additional risk groups (15’)</td>
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<td>e. Discussion (30’)</td>
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<tr>
<td>12:15-1:15</td>
<td><strong>Lunch Break- Working lunch</strong></td>
<td>STH AC Members</td>
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| 1:15-2:15 | **10. Demand forecast, trajectories & scenarios:**  
| | a. Assumptions, trajectories & implementation scenarios post 2020 (10')  
| | b. Cost and operational assessments for all risk groups approach (platforms, supply, data) (10')  
| | c. Diagnostic options for different scenarios (10')  
| | Discussion (30') | Brooker/Vail/Bradley | Discuss options to achieve end goals post 2020. Develop consensus: key priorities and feasible options  
| 2:15-3:15 | **11. STH post-2020 priorities:**  
| | a. Implementation priorities (10')  
| | b. Research priorities (10')  
| | c. Partnerships & platforms to initiate country ownership and sustainability dialogue (CEO-RT, UNTD, etc.) at global level and country level dialogues on linkages with ongoing common platforms (10')  
| | d. Resource priorities (10')  
| | e. Discussion (20') | Sultani Imtiaz Bradley/Brooker TBD All | Develop consensus for key recommendations: new risk groups, persistent foci, post-impact surveys, resource needs, and sustaining gains post 2020  
| 3:15 – 3:30 | | **Break** |  
| 3:30-4:00 | **12. Synthesis, summary, and wrap-up**  
| | a. Draft recommendations (20')  
| | b. Closing (10') | Utzinger & Dream Team |  

*Presentations can be found [here](#).*