COR-NTD 2015
Philadelphia, PA, October 22-23

Breakout Group Summary Report

This document is intended to capture the key outputs of your breakout discussion, and to be representative of the group as a whole. Please denote your group's topic, presentations and research priorities before the start of the session, and dedicate the latter portion of your session to determining the key discussion points, knowledge gaps and recommended steps. Also, please indicate whether your group's recommendations align with the specified initial priority target. Your report will be shared on the NTD-SC website, and will inform future advisory panel discussions and donor priorities.

Section I

To be filled out before the session begins.

Breakout Topic:

1C: Schistosomiasis Decision-Making: What do we still need to know to optimize programs?

Presentations:

1. New Mapping/Diagnostic Tools
Antigen detection assays: from research to programs - Carl Campbell
Nucleic acid assays and future possibilities - Clive Shiff

2. Beyond MDA – what else do we need to know to move towards elimination?
Vector snail control studies - David Rollinson
WASH involvement and evaluation - Peter Jourdan

3. Strategies to improve treatment coverage
Community coverage and community drug deliverers - Lynsey Blair
Out-of-school school-age children - Charlie King

Research priorities to be discussed:

1. New Mapping/Diagnostic Tools
2. Beyond MDA – what else do we need to know to move towards elimination?
3. Strategies to improve treatment coverage

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Section II

To be filled out as the session concludes.

What were your group's key discussion points?

There are some critical areas that need decisions now, while we await further data. Some participants called for WHO urgently to develop draft guidance for countries using POC-CCA for mapping. Although we don't have all the data we need, could draft guidelines be developed, with the idea these could be modified once more data are available?

Regarding diagnostics, as we move towards elimination, we will need to use more sensitive tests, and we will need ways to interpret the results of testing using these assays in relation to traditional, less sensitive tests. In terms of research, developing and evaluating more sensitive tests for schistosomiasis that retain specificity is critical. Head-to-head comparisons will be needed for us to understand how best to use these tests.

It is now clear that in most endemic areas mass drug administration (MDA) alone often fails to eliminate schistosomiasis. Snail control can play a key role, but we need new and better molluscicides or other agents, better understanding of timing of snail control, and effective approaches to involving the community in snail control. Further integration with the WASH community is critical. Among the research questions discussed were the need to develop and evaluate new products that can increase access to WASH, research on how to increase and maintain uptake of WASH interventions, and how to most effectively use the typically limited WASH resources.

Other needs that are not research include:

- Guidance for snail control and increased capacity for snail control in countries
- Better integration of schistosomiasis control and elimination with WASH programs
- More praziquantel (PZQ) availability and the ability to use donated PZQ for populations other than only school-age children
- Guidelines for programs wanting to institute WASH as part of schistosomiasis control
- The need to link more closely with feeding programs, such as by the World Food Program

Regarding coverage, the group discussed the potential impact of an increase in the global supply of PZQ and whether that would result in a trickle-down impact on communities – which is not a research question but is an important issue. In the meantime, continuing to identify ways to increase coverage are critical.

Research questions addressed a range of issues, from how to help drug distributors be more effective (incentives, use of mobile devices), to how best to conduct social mobilization (both identifying what works, but also determining what is not worth spending money on), to reducing non-compliance, to when and for how long to treat adults.

The group did not have time to prioritize or discuss ideas in depth. What follows is an attempt to capture the breadth of discussion. We did not have time to fully develop many of the ideas.

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What knowledge gaps (if any) did your group identify?

For Mapping/Diagnostics, key needs include:

• S. mansoni: Evaluation of POC-CCA in comparison with Kato-Katz and other tests (e.g., antibody, PCR [including urine-based], qPCR, etc.) to provide data to generate program guidelines for those using POC-CCA to map, especially in low-prevalence areas
o Need standardized protocols, done in multiple countries, with attention to limit of detection
o Need to provide individual-level data to modelers
o Include comparisons of measures of intensity (e.g., band density, e.g., in stool)
• For POC-CCA, better standardization of quantitative readings and new approaches to distinguish true/false positive readings
• S. haematobium: Higher sensitivity field test
• Strategies for testing in order to determine if you have eliminated the disease
o What are the criteria for saying you have eliminated disease?
o To what extent can you use environmental and other data (e.g., no water bodies, historic data) instead of human testing?
o What is the role of sentinel sites in assessing elimination and for follow-up surveillance?
• Could a point-of-care CAA test be developed?
• What is the appropriate use of the current CAA test in elimination assessment?
• Other evaluation issues with diagnostic components included:
o The need to consider regulatory issues when evaluating pediatric praziquantel (PZQ) and what test to use in test-to-treat programs
o What is the public health significance in low-prevalence communities that have many egg-negative, CCA-positive individuals

For beyond MDA: Elimination of schistosomiasis

Snails
• Timing of snail control
o How best to address seasonal transmission
o Timing of MDA – before or after snail control
o Optimize periodicity and timing of snail control – may differ according to hot spot/seasonal/elimination effort, etc.
• Better agents/approaches
o Evaluation of new (or re-discovered) molluscicides
o Evaluation of biologic control
o Evaluation of new formulations of niclosamide, e.g., time-release formulations
• Mapping snails: What are the best means to determine the distribution of snails and to identify human water contact sites?
• How to engage communities in snail control in ways that enhance effectiveness and sustainability
• Compatibility polymorphisms between snails and schistosomes
• How best to use snails to determine interruption of transmission (i.e., xenodiagnoses)

WASH
• Research on new products that can increase access to WASH
• Use and maintenance of latrines, taking contextual factors into account

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• How best to involve communities. There are several models for community sanitation, e.g., community-led total sanitation (CLTS)
• Design of laundry slabs and facilities, issues around potentially schistosomiasis-contaminated laundry and bath water disposal
• Need to co-map WASH and schistosomiasis control activities
• How to use limited WASH resources most effectively, e.g., start with schools and then go to households, or the other way-round?
• Effectiveness of health education materials
• What are appropriate key-performance indicators?
• Develop a business model of delivery for implementation of various WASH components and evaluate its effectiveness for reducing prevalence and intensity of schistosomiasis and STHs

Coverage
• Social mobilization
o What are effective strategies? Is it more cost-effective to engage over a longer period of time with communities vs. in an annual blitz
o What is the impact of national launches vs. other approaches
o Need to capture how messages are different in the middle of a campaign compared to at the end
o Could we be using phones/text messages?
o How to get communities to "own" programs
o How to best balance/optimize various strategies, e.g., health facilities, door-to-door, fixed point
• Coverage data
o How best to reconcile reports from multiple systems
o Denominator issues, for example, how to calculate the denominator when you invite schoolchildren to bring friends or siblings
• Timing of efforts: What is the best timing for community-based treatment in relation to schoolbased treatment?
• Hard-to-reach populations
o How to improve coverage among children out of school, pregnant women, people in remote areas, and other hard-to-reach populations
o What is more cost-effective in treating adults: attempting to treat all or targeting high risk?
o Non-compliance: What are the reasons, and do they differ among people who previously took drug and those who never had
• How to improve serious adverse event reporting and response to it
• Sustaining and moving to elimination
o How to sustain high coverage over time
o When to stop MDA and move to test and treat
• How long to treat adults in high-prevalence districts
• How best to integrate with other programs: health programs, non-health
• Community drug distributors (CDDs), i.e., the influence of different types of incentives
o Optimal number for a given population under different circumstances
o Influence of CDD gender on coverage o Impact of use of phones
o How to motivate CDDs

Global Schistosomiasis Alliance
• Further development and assessment of the pediatric formulation, including determining the optimal dose for pre-school children
• Drug-drug interactions, especially with anti-retroviral drugs, and the impact of taking multiple drugs on compliance

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• The potential for resistance to PZQ, and whether other (including older) drugs should be explored
• Vaccines
• Population genetics of schistosomes
• How and whether to move to point-of-care treatment (e.g., test and treat at health centers)
• Mechanisms of action of PZQ

OTHER TOPICS
• Impact of PZQ on female genital schistosomiasis

What next steps does your group recommend?

We did not have time to identify research priorities, but among the topics considered important are:
1. Areas needing decisions, such as draft guidance for countries using POC-CCA for mapping.
2. Better information about how to interpret results using tests that are more sensitive than Kato-Katz, especially in low-prevalence areas. Further development and evaluation of more sensitive tests.
3. Research on optimal strategies for elimination, including timing of MDA, use of snail control, and WASH, and combinations thereof.
4. Research on how to increase coverage, ranging from how to incentivize drug distributors to how to increase social mobilization.

The three topics addressed were all considered critical.

Do your recommended steps align with the research priorities identified on page 1? ◉ **Yes** ○ **No**