

Behavior Change for MDA, WHO targets, WASH, & Morbidity

Session Date: Friday, October 26

Session Time: 1:00pm – 4:00pm

Session Location: Rosalie, 3rd Floor

Session Description: The aim of this session is to provide researchers, programme managers, and implementers/donors a framework for assessing behavioural problems during MDA. We will proceed with four empirical examples delineating what is meant by behaviour change and how behavioural issues have affected each aspect of MDA from implementation to modeling, morbidity management, and WASH. This session will highlight behavioural change issues beyond attitudes, health promotion, and pill ingestion. Most importantly, these talks will showcase tools available for designing effective interventions and illustrate how to select appropriate baseline indicators for monitoring/evaluating behaviour change.

Two working groups will address pressing MDA challenges. One group, led by Prof. Russell Stothard and Dr. Jutta Reinhard-Rupp, will identify the behavioural issues and associated indicators to monitor for increasing treatment of women with female genital schistosomiasis. The other group, led by Mr. Geordie Woods, will delineate how ‘nudges’ can be used for WASH, implementation, and coverage interventions.

Session Chairs: Dr. Goylette Chami, University of Cambridge

Session Rapporteur: Caroline Kusi

KEY DISCUSSION POINTS**Talk 1: Prof. Louis-Albert Tchuem Tchuente: Schistosomiasis in Cameroon**

- To induce behavioural change, a holistic approach is needed. This approach would entail addressing transmission, multilevel stakeholder engagement, real-time feedback on behaviours, intensified health education, community ownership, access to sanitation, and environmental or snail control.
- Key examples of successful interventions:
 - Installation of community water pumps reduces water contact.
 - Innovative approaches to health education can improve the understanding of transmission risk after water contact. Real-time feedback of water contact points from GPS loggers worn by mothers and children reduced mother and child water contact.
 - The training of journalists and important government officials changed *how* messages about NTDs were communicated. High-profile individuals can serve as opinion leaders for countrywide MDA programmes.
- Remaining challenges:
 - There is a need to coordinate the behaviours and goals of governments, partners, implementers, and communities.
 - There is difficulty in inducing behavioural change when key sanitation infrastructure is still lacking.

Talk 2: Mr Geordie Woods: Behavioural nudges & WASH

- The key contribution of this talk was the introduction of a 'new' method (new for NTDs, though referring to work that won a Nobel Prize in 2017!) for inducing behavioural change—here, the concept of a nudge. With nudges, no new incentives/choices and no new interventions are introduced. Instead, the framing, context, environmental stimuli, or delivery of an existing intervention is altered to make the intervention simpler, quicker, and more familiar for the targeted population.
- Example:
 - Sightsavers sought to increase hand-washing rates in primary schools. The intervention was the provision of soap; nothing new to the NTD community. The nudge was that the soap was tied to a piece of rope that was attached to a hall pass. Children had to retrieve the hall pass from the teacher before being allowed to leave to use the toilet. Having the soap on the hall pass made 1) the intervention easy to use, 2) the child's behavior visible as the child would be ashamed if the teacher noticed the returned soap was dry, and 3) ingrained the behaviour of needing to have soap accompanying the hall pass.

Talk 3: Prof. Deirdre Hollingsworth: Impact of behaviour on modelling outcomes

- From a modeling and programmatic perspective, successive rounds of MDA should reduce the prevalence of a disease. However, a number of behavioural factors can undermine an optimal MDA programme.
 - Individuals may systematically non-adhere or be missed during MDA.
 - Transmission can be sustained through migration.
 - Environmental changes may facilitate or maintain transmission in unexpected ways.
 - A sub-group of the population may be less responsive to treatment, thereby inducing drug resistance.
 - The wrong population may be treated or targeted by MDA.
- There is a call for improved data on
 - individual-level coverage information and
 - the identification of 'core groups' sustaining transmission.

Talk 4: Ms Michal Bruck: Innovative approaches to health education & WASH

- Key policy-level challenges:
 - Lack of leadership
 - Lack of shared achievements
 - Insufficient data-sharing for decision-making
 - Lack of shared responsibility
- Addressing policy-level challenges:
 - Extensive stakeholder meetings
 - Introducing feedback mechanisms
 - Providing a framework to characterize problem areas
 - Create an 'enabling environment'
- To improve community engagement, volunteers from local universities were involved. These individuals revisited their home communities and served as role models to young children.
- To reduce open defecation, there is a need to make public latrines user-friendly. Importantly, we need to rethink how we view the introduction of sanitation infrastructure. It can be thought of as being in 'direct competition' with open defecation. So, the NTD community must ask how can the preferred qualities of open defecation be incorporated into new latrine designs? The NALA foundation has been working to improve latrine ventilation, increase privacy, isolate human excreta, and so on.
- To increase hand washing, communities must 'buy-in' to the intervention. One approach is to conduct a community-funding scheme where communities would raise 30% of the funds required (70% are donated) to build public hand-washing taps.
- When working with children, there is a need to 1) create an emotional connection to the

intervention, 2) encourage active participation in the design of the intervention, and 3) utilize problem-solving tasks to retain attention.

KNOWLEDGE GAPS IDENTIFIED

The key purpose of the group discussions was to use well-established interventions and to identify how to make them more effective. The key knowledge gaps were around how best to introduce and maintain an intervention. However, the discussion of female genital schistosomiasis (FGS) revealed that there is a need to establish an overarching framework for choosing a coordinated set of interventions that involve the patient, community, and local health system. There was no agreement on a single intervention for FGS. For example, health facility workers who have no knowledge of FGS may undermine an intervention attempting to increase the self-reporting of vaginal discharge by affected women. The lack of knowledge from health workers can undermine FGS detection efforts in that diagnoses of women who report to health clinics may be misconstrued as sexually transmitted infections (STIs). In addition to depriving women of much needed treatment, misdiagnoses also can stigmatise women within their community by creating a sense of shame from perceived promiscuity. Thus, there is a need to better gauge the prevalence of female genital schistosomiasis, encourage reporting, and train health workers to actively screen for schistosomiasis and to distinguish it from STIs.

RECOMMENDED NEXT STEPS

There were three discussion groups on 1) open defecation, 2) treatment delivery/ingestion, and 3) female genital schistosomiasis, who applied the method of behavioural nudges to design interventions. The operational research questions and the suggested 'nudges' to change the framing, ordering, familiarity, presentation, or environmental context of the intervention are presented below. In the Appendices, the handouts from the group discussions are shown.

Question	Intervention	Nudge
Treatment delivery/ingestion		
1. How can men be better reached during MDA? Are there alternative drug/information delivery platforms that can be used?	1. Routine community-based MDA	1. A) <u>Familiar environments</u> : Provision of medicines or information about drug availability in areas where men regularly meet, e.g. village bars or sporting events B) <u>Default choice</u> : Automatically enroll individuals within MDA implementation unit to receive drug availability text reminders; Rely on individuals 'laziness' to not opt out of text messages
2. How do we properly time the delivery of MDA?	2. Routine community-based MDA	2. <u>User convenience</u> : present drugs around meal times or at night
3. How do we improve perceived drug safety and trust?	3. Routine community-based MDA	3. A) <u>Branding</u> : Build off polio campaigns branding of vaccinations, e.g. grouping of health workers (same t-shirts) B) <u>Perceived popularity</u> : Use community testimonials C) <u>Opinion leaders</u> : Have respected individuals endorse model behaviour

4. How can we better target children and increase their drug uptake?	4. Routine school-based MDA	4. <u>Visibility</u> : Add section to report cards for MDA; include marks for MDA participation and drug receipt; report card marks provide feedback to families to reinforce child's behavior
Open defecation		
5. How may we increase the uptake of compostable defecation bags?	5. Use of 'Green bags' for defecation then later use composted bags as fertilizer	5. A) <u>Convenience</u> : Set up collection or deposit locations instead of having a designated collector within the community; Design a simple carrying tool B) <u>Change presentation</u> : Make drop-off bins colourful to encourage students to deposit bags in the morning before going to school C) <u>Environmental stimuli</u> : Place signs at the lakeside reminding individuals to bring their compostable bags; Showcase messages about the communities' uptake of the compostable bags (e.g. install a bag counter at the drop-off point) D) <u>Peer comparisons</u> : Make compostable bag use a competition between/within communities; share information about the uptake of compostable bags by neighbouring villages/individuals
6. How do we promote latrine usage?	6. Existing or newly built public latrines	6. A) <u>Change presentation</u> : Color walls in bright hues to attract children; write inspiring messages to induce national pride and encourage adults to maintain latrines B) <u>Create interest, alter perceived popularity</u> : Present a weekly riddle inside latrine walls; Install a mirror that can only be seen at head height when using the latrine; Allow children to write on the walls to share messages to each other C) <u>Follow-the-herd tactics, alter perceived popularity</u> : Involve a set of village leaders to establish positive opinions of latrine use <u>Peer comparisons</u> : Give public marks to households that use latrines
Female genital schistosomiasis (FGS)		
7. How do we improve the training of health professionals on aspects of FGS?	7. WHO pocket atlas on FGS	7. <u>Increase visibility & peer comparisons</u> : Provide training certificates; Display certificates in offices so peers view their lack of certification and seek training

8. How do we improve women's understanding of sub-fertility?	8. Health education campaigns	8. A) <u>Prime individuals</u> : Before FGS health education campaigns, raise issues around sub-fertility B) <u>Familiar environments</u> : Use existing savings cooperatives or other women's groups to present information on FGS
9. Unresolved FGS questions: <ul style="list-style-type: none"><input type="checkbox"/> How do we deal with hidden stigmatization of women with FGS?<input type="checkbox"/> How do we reconcile differences between health systems and communities with differing views on FGS?		

“A Nudge is any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives.”

R. Thaler & C. Sunstein, in Nudge (2008)

Nudge theory sets out the proposition that choices should be based on how people actually think and decide (instinctively and irrationally), rather than how leaders and health systems conventionally believe people think and decide (logically and rationally).

The use of **Nudge** theory is based on **indirect encouragement** and enablement. It avoids direct instruction or enforcement. The goal of many nudges is to make life simpler or safer for people to navigate.

With nudges, there are:

- no new choices
- no new economic incentives



Nudges	Examples
Active versus passive choices	<ul style="list-style-type: none"> <input type="checkbox"/> Default programme enrolment <input type="checkbox"/> Automatic enrolment into text notifications that require an active ‘opt out’
Availability	<ul style="list-style-type: none"> <input type="checkbox"/> Perceived popularity/rarity <input type="checkbox"/> Familiarity
Simplification	<ul style="list-style-type: none"> <input type="checkbox"/> Convenience <input type="checkbox"/> Provide shortcuts/heuristics for making choices <input type="checkbox"/> Change the environment in which choices are made – provide stimuli <input type="checkbox"/> Enable ‘quick’ choices using emotional responses, mindless actions, or temptations
Social norms or habits	<ul style="list-style-type: none"> <input type="checkbox"/> Use community ‘rules’ <input type="checkbox"/> ‘Follow the herd’ – use tendencies to conform (mob instincts) <input type="checkbox"/> Understand stereotypes <input type="checkbox"/> Use limits of self-control
Information provision or framing	<ul style="list-style-type: none"> <input type="checkbox"/> Spotlight an individual’s behaviour – use anxiety, pressure, & performance expectations <input type="checkbox"/> Make peer comparisons – share information about others’ behaviours as reference point <input type="checkbox"/> Change framing of intervention or questions <input type="checkbox"/> Adjust frequency of information feedback <input type="checkbox"/> Change labelling or introduce branding <input type="checkbox"/> Change ordering or other aspect of the presentation of the intervention <input type="checkbox"/> Prime individuals before interventions – create a ‘way of thinking’ or build beliefs

Behavioural issues and associated indicators to guide and monitor the increasing praziquantel treatment needs of adolescent girls and adult women with female genital schistosomiasis (FGS)

Up to 56 million African women suffer from genital schistosomiasis resulting from infection with *S. haematobium*, water-borne parasitic disease [1]. Figure 1 frames the connection between urogenital schistosomiasis and FGS in the endemic setting. The disease likely starts in early childhood then becomes more obvious during adolescence, increasing in its significance upon sexual debut (i.e. **interplay with the HIV epidemic** [2]) and with subsequent complications in adulthood (e.g., **sub-fertility** and **confusion with STIs**). FGS can be **stigmatising to African women** and can cause **tensions within the local community**.

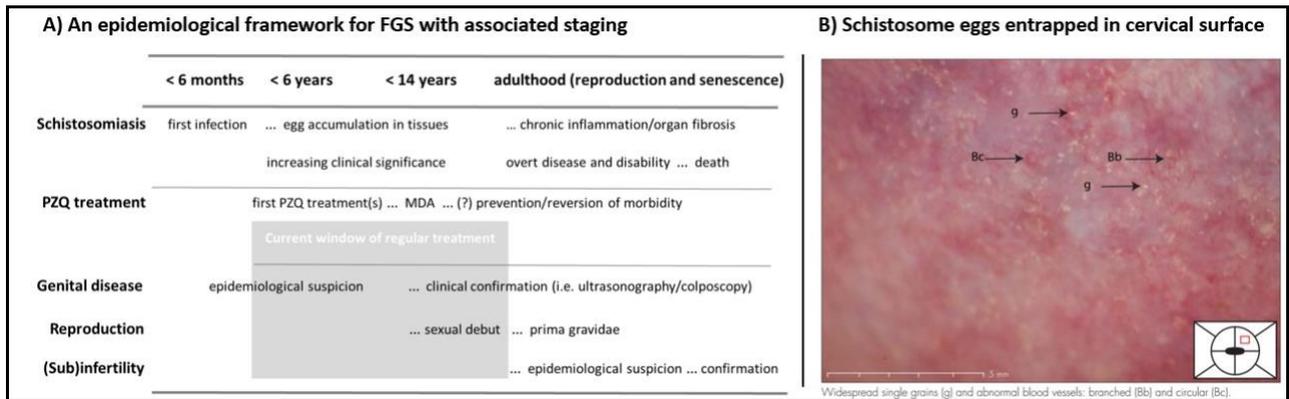
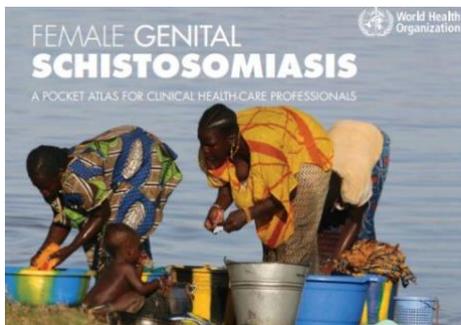


Figure 1. A) In the African setting, infection with *S. haematobium* typically occurs in childhood with disease progression and increasing signs and symptoms associated with urogenital tract disease. **B)** An image is shown of the cervix with schistosome eggs embedded its surface with altered vascularisation. FGS lesions are known cofactors of HIV, HPV and cervical cancer risks.



Current schistosomiasis control with annual treatment of 40 mg/kg PZQ is insufficient to manage adequately FGS lesions. The clinical burden of disease is underestimated and poorly understood within the peripheral health sector.

FGS behavioural issues	FGS needs
Connections with other stigmatising diseases	Improved access to treatment and care
Community perceptions enforcing shame	Appropriate and culturally sensitive health education

DISCUSSION LEADS

Dr Jutta Reinhard-Rupp (Merck) & Professor J. Russel Stothard (LSTM)

Our understanding of the dynamics of infection and disease management of this condition has many 'gaps'. In Cameroon, for example, the national control programme has recently endorsed the need to adapt and change intervention tactics, recognising the unmet needs of FGS control [3].

As framed from either **patient, community, or health system** perspectives, we will first work in three discussion groups to list and discuss key contexts within the sub-Saharan African setting. Being mindful of the behavioural heterogeneities in seeking and receiving treatment, upon general discussions, we aim to:

- 1) **identify cross-cutting issues**; and
- 2) **formulate operational research questions** to progress towards a more holistic response to the challenge that FGS poses.

1. Christinet, V., et al., International Journal for Parasitology, 2016. **46**(7): p. 395-404.
2. http://www.unaids.org/sites/default/files/media_asset/UNAIDS_HIV_prevention_among_adolescent_girls_and_young_women.pdf;
3. <http://www.schisto.com/wp-content/uploads/2017/04/TEsreport.pdf>