

A conversation with Sarah Nogaró, October 16, 2014

Participants

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Note: These notes were compiled by GiveWell and give an overview of the major points made by Dr. Sarah Nogaró.

Summary

GiveWell spoke with Dr. Sarah Nogaró of the Schistosomiasis Control Initiative (SCI) as part of its process to update its review of SCI. The conversation was intended to better understand SCI's work in Côte d'Ivoire, as a case study to better understand SCI's role, impact, and need for additional funding.

Côte d'Ivoire program

Background on program

Prior to SCI's work in Côte d'Ivoire, there were no large-scale schistosomiasis (SCH) treatment programs. The Centre Suisse de Recherches Scientifiques (an affiliate of the Swiss Tropical and Public Health Institute) and the Université Félix Houphouët-Boigny had collaborated on research projects and mapping a very small number of districts. Both Professor Jürg Utzinger (affiliated with the Swiss Tropical and Public Health Institute) and Professor Eliézer N'Goran (affiliated with the University of Félix Houphouët-Boigny) are prominent SCH researchers who has been involved with this work. The organizations continue to conduct research on SCH and soil transmitted helminthes (STH) in the country.

SCI first contacted the government and started to discuss a SCH/STH program in 2010. A civil war delayed progress because there was political turmoil, a weakened health system, and dangerous conditions. In 2012 conditions improved, and the contracts between SCI and the Ministry of Health were set up.

The Ministry of Health team in Côte d'Ivoire is skilled and motivated, but the government's budget for health is small compared to what is needed. The government program manager is young and dynamic and demonstrates strong leadership with his team. The government pays staff salaries. However, SCI and other partners will pay per diems to the team when they are in the field undertaking programmatic activities. SCI provides financial support for mapping, sentinel site surveys, mass drug distribution, coverage surveys and other activities, as well as non-financial support for the program.

Mapping

SCI conducted national mapping since late 2012, finishing in March 2014. In total, all 82 districts in Côte d'Ivoire were mapped. This was done in two phases because of limited funding. The first phase was done by the Ministry of Health with support from SCI. The second phase was led by Professor Eliézer N'Goran from the Université Félix Houphouët-Boigny with both technical and financial support from SCI.

Dr. Nogaro spent several days in the field for harmonization training. During this time, SCI took a second reading of 10% of the slides to determine whether the surveyors were accurately measuring egg counts. After the training, the supervisors of each field team continued to take a second reading of 10% of the slides and record the results. If a big disparity were found, then the supervisor would do additional training. Additional training was not needed in Côte d'Ivoire.

Treatment strategy

Due to ethical considerations, it was important to treat people relatively quickly after mapping data had confirmed infections so treatments began in places that were mapped before the rest of the country had been mapped. Treatments started in December 2012:

- In 2012: 649,859 school-aged children (SAC) received treatments in 12 districts, some of which had been mapped prior to SCI's involvement.
- In November 2013: 853,708 SAC received treatments in the areas that SCI mapped first, with the help of the Ministry of Health.
- In May 2014: 1,425,461 SAC received treatment in the remaining areas of the first phase of mapping.
- In November 2014: 3.5 million SAC are targeted for the next treatment, which would correspond to the second phase of mapping.

The aim is that by the end of 2014, all SAC in the SCH-endemic districts will have been treated at least once. Some areas that were treated in 2012 were also treated again in May.

Future treatment plans and considerations

World Health Organization (WHO) guidelines suggest different treatment frequencies depending on prevalence:

- Low (1-10% prevalence): treat twice during primary school (once every 3-4 years)
- Moderate (10-50% prevalence): treat every other year, and
- High (prevalence over 50%): treat every year.

Only 3 districts have high prevalence so the plan for next year is to treat those areas, as well as those that need treatment every other year and were not treated in 2014. Others districts have moderate or low prevalence and would be treated again in future years, following WHO guidelines.

- In 2015, 637,228 SAC will be targeted, which is everyone who should be treated, based on WHO guidelines described above.
- In 2016, treatment numbers would be similar to 2014.

The country will start an integrated treatment program for several diseases in November 2014.

Given limited funding to date, SCI has focused on delivering treatments to SAC as recommended by WHO guidelines. In order to remove SCH from the environment, SCI would want to treat adults and work with other organizations to have them set up water, sanitation, and hygiene (WASH) programs. Adults often have health issues and request treatment, which SCI would like to provide in future.

Budget

Given the variation in number of treatments per year due to prevalence of the disease, the budget fluctuates from year to year.

SCI plays an advisory role to the government and encourages them to have overall ownership of the program. The country decides the treatment plans, and SCI's program managers provide technical expertise and help create budget requests alongside the Ministry of Health team. This budget is submitted to SCI senior management who make allocation decisions. It would be unusual, but if a country wanted to treat more frequently than WHO recommends, SCI would support the country, though likely would be limited by funding.

Over time, costs per treatment should drop. There are supplies such as dosage poles that have to be purchased but then should be reused over the years. Also, after the first year, training can be shorter and take place within districts rather than bringing everyone to a central location.

Running and monitoring the MDA

Dr. Nogaro has been involved with two rounds of the MDA since she joined SCI in September 2013. For the MDA, she arrived in the country about one week before training to make sure that materials were prepared and funds were available and distributed according to the agreed budget lines. She spent five days in the field observing training and supervising treatments alongside the Ministry of Health team. During the training sessions for the teachers, she has seen some difficulties for the trainees:

- They can be nervous about trying to give treatment to the entire schools.
- They may not understand how to fill in the treatment register.
- They may be confused about how to use the dose pole that is used to measure children's height and determine how many pills should be given.
- They may be nervous about children not wanting to take the pill given its size and taste.
- They may need guidance on reassuring children that side effects are minimal.
- They may ask other questions that show lack of understanding.

However, all these issues were clarified and resolved by the end of the training session.

At a training Dr. Nogaro observed, the training team ran a role-playing exercise to walk through the steps in an effort to address the difficulties. Through this, it was possible to see whether the teachers understood. The trainees take a test before and after the training, and in general the scores are significantly improved after the training.

In Côte d'Ivoire, the central team supervises the entire MDA. There are four “chiefs” under the main program manager, each with responsibility for a team and a set of districts. During the supervision of the MDA, each team randomly goes to schools and communities and observes whether treatment is being done properly and to address teacher or community health workers concerns. Dr. Nogaro joined a team for some of these observations. After the treatments are delivered, the districts send the treatment registers back to the central team. When the team reports on treatment numbers, it also reports on any issues it observed.

If there are concerns that Dr. Nogaro observes during the supervision in the field, she first addresses these with the staff in the field and then communicates these to the program manager. There is constant communication between the field team, the program manager and Dr. Nogaro throughout all of the activities.

School-based versus community-based treatment

Treatment in schools is quite straightforward:

1. The children are gathered and the headmaster explains the treatment. The children can ask questions. Teachers can answer most questions and call a nurse or program staff for guidance when they cannot.
2. Teachers ask all children individually, prior to distributing the medication, if they are feeling well and if they have eaten.
3. For children who answer yes to both questions, teachers measure them with the dose pole.
4. Children are given the appropriate number of pills and clean water to help swallow the pills.
5. The teachers record the number of pills each child has taken.
6. Teachers record any secondary effects on specific forms and submit them with the treatment registers at the end of the activity.

Treatment in schools is generally successful. The environment can be loud and chaotic. Children may experience side effects, but they are generally minor (such as nausea, dizziness, vomiting, and belly aches) and last about two hours. Children and the headmaster are informed of the risk of side effects. These factors have not been enough to significantly impact coverage rates.

Community-based treatment is more difficult, though less common, than school-based treatment. In one case, a community health worker (CHW) went to a village (which was targeted because it did not have a school) with the pills and dose pole,

but no children came for treatment while Dr. Nogaro and the supervision team were there. The CHW stated that the SAC were either at school (in another village) or out in the fields and that he would go around each household later in the day and give treatment. SCI is considering ways to improve coverage in community-based treatment. One idea is to conduct community treatments in the morning at a convenient place for people on the way to work or to go door to door in the evenings. In Côte d'Ivoire, SCI encourages teachers to ask children to bring non-enrolled siblings to school for treatment and asks CHWs to reach the remaining children in the community.

Some areas have had low coverage. In November, Dr. Nogaro is planning a qualitative survey of CHWs in areas of low coverage of non-enrolled children to better understand the issues in these areas.

The availability of drugs was a problem during the last MDA because program planners had an incomplete list of schools from the Ministry of Education. Unfortunately, this information is not updated regularly. The last population census data was in 1998 in CDI. When this happened, the Ministry of Health teams called the government program manager who notified Dr. Nogaro. Program plans always allow for some contingency. As soon as he was aware of the issue, the program manager sent additional drugs to the districts to fill the gaps.

There have been some isolated cases of politically linked violence and disturbances. In November, a field team was in a nearby town after an incident where people shot at cars on an isolated road and stole their belongings. Dr. Nogaro and the program manager advised that field team to stay in a safe area until it calmed down. The districts where this happened got the highest coverage rates, over 80%. This suggests that unrest of this kind could delay training or prolong treatment but may not result in lower coverage.

Coverage survey

Dr. Nogaro was involved in field training for the coverage survey. The two survey teams participated in a half day training session, and then both teams spent three days practicing in the field, taking turns conducting surveys in four villages. They surveyed children 5-15 years old.

It can be difficult to get clear, accurate answers from young children (5-6 years old). Children, especially younger ones, may be influenced by others who are around during the survey. This is especially so because surveyors often interview older children first, in front of younger siblings. When in a crowd, children may be distracted, but when isolated they may be nervous. Children tend to clearly remember SCH treatment, partly because there are not too many other MDAs and the dose pole is memorable. The surveyors may ask additional questions to remind the children and see if the answers seem believable, for example:

- Show children the dose poll and ask if the children remember it

- Ask the children what they remember about the pills (it is normal to remember praziquantel's bitter taste, size and smell)
- Ask the children how many pills they took (while trying to judge how many they should have received by getting them to stand near the dose pole)

Uncertain answers and conflicting information (for example, saying they received treatment but that it was a different number of pills than they should have been given) can complicate the process. This will be even more difficult with integrated treatment programs. The surveyors only record if the children say they took the drug, didn't take the drug, or are unsure; currently, the surveyors do not track answers or concerns from the additional questions, though going forward SCI will consider including these as well.

Generally, there is not good data on who lives in a village. To select participants, the team starts by identifying a central place in the village. It spins a bottle to select a random direction and then counts all households along this path. It counts all households from the center to the edge of the village, divides the number by the desired sample size (call the result "N"), and then interviews every Nth household. For example, if there are 30 households and it needs to survey 15, it will visit every other house, starting at the first or second house based on selecting a number out of a hat or bowl.

Households tend to have multiple buildings for each family, and some cannot be seen from the path. The surveyors go to each selected house and ask the head of the household for permission to survey all of the children who sleep in the house. Other houses in the household compound are not included. If the children are at school, the surveyors get information and try to interview the children at school, or if they are working in the fields or otherwise absent at the time of the interview, the surveyors return later. Similarly, if no one is home, the surveyors return later. If a child is not home when they return, the parents can act as a proxy, which is noted by the surveyor. Proxy answers were not included in the final analysis. When the surveyors are unable to survey a child or collect a proxy answer, they simply record this; they do not replace the child with someone else. The teams generally visit two villages per day and to manage this schedule only try two attempts to interview the children.

Impact of unrestricted funding

If the 2014 targets are met, it will be an impressive achievement to have treated all SCH-endemic areas at least once since 2012. With just the funding allocated by DFID, the program could not have scaled up as quickly. In this scenario, it probably would have completed the mapping but delivered fewer treatments.

SCI's impact on other organizations

Other neglected tropical disease (NTD) organizations have benefitted from the work SCI has done to build a SCH program. SCI has provided cars and developed staff

capacity. Organizations have worked to coordinate when sharing these resources and operating an integrated program should make that easier.

Starting a program in the Democratic Republic of the Congo (DRC)

Establishing a relationship

SCI's work in the country began with establishing a relationship with the Ministry of Health and discussing funding the SCH program. The country had a SCH program, but it was not functioning as it did not have sufficient funding. Professor Fenwick, SCI Director, was the first point of contact because he is well respected in the field. Dr. Nogaro attended meetings in the country. The leaders in DRC have been enthusiastic about a program because of the experience of other countries and the Millennium Development Goals.

Planning and mapping

With the relationship established, the next step is building a plan and timeline. DRC is a large country, and mapping work started in 2011 (SCI was not contributing until July 2014); it is scheduled to be finished by the end of this year. Normally positive cases should be treated the same day they are identified, but this was not done in DRC, most likely because of insufficient funding. Other partners may not have the remit to treat SCH.

In DRC, SCI will not be paying CHWs because this is how the onchocerciasis program has been running, and it does not want to risk undermining that work.

SCI tries to reinforce collaborations between African nations. For example, a Ministry of Health official from Uganda will visit DRC to assist with training to undertake sentinel sites activity.

Treatment plans

The first treatment will be very informative. The aim is to treat 1.3 million SAC across four provinces starting in November 2014. The Ministry of Health would like to reach 100% geographic coverage next year, though funding is not yet available for this.

Provinces receiving treatment this month are Bas Congo, Kasai Oriental, Kasai Occidental and Katanga. Bas Congo and Kasai Occidental are relatively close to Kinshasa. Kasai Orientale and Katanga are quite far from Kinshasa. They were chosen as this is where mapping had happened first.

In DRC, transportation is difficult. One district SCI plans to treat is relatively easy to drive to, but the other three are very difficult. For mapping, the team had to carry equipment by foot, which will be very challenging to do for the MDA. The staff in these provinces have experience with MDAs from their work on onchocerciasis, and the areas were also the first to be mapped for SCH. Every health district has a medical director and each reports back to the project coordinator, who reports back to the national NTD program, based in Kinshasa.

SCI recommended that the program start in only one province, where transportation would not be as difficult, so that it could make sure the program is done well and can assess the costs. The Ministry of Health decided the program will proceed in additional provinces. Looking forward, SCI has advised that it is critical to go back to retreat provinces that require annual SCH treatment before expanding the program to cover additional districts, and this advice was well received by the national program.

Budget

Funding for the DRC program is set to increase. DRC is a difficult place to work because of the geography, the vastness of the country, and ongoing civil war in the east. The transportation challenges will make travel (such as for training) and drug delivery expensive. The plan is to have many partners involved to help share the costs.

Financial controls

Program staff in each country create annual budgets in collaboration with SCI. The budget ensures money is being spent well and on activities defined in the annual work plan, which is submitted by the country to SCI. Generally, receipts are used to document expenses. In some cases, it takes a long time to get the receipts or receipts are not available at all. SCI hired an accountant and an auditor to better monitor finances.

Money is only released against a defined activity that was written in the annual country work plan. Every month the country will send back the monthly cash book with all the receipts to SCI. All expenses need to be accounted for. Every cash book and receipt is checked by SCI Finance Manager, as well as by the SCI program Manager.

In Côte d'Ivoire, for mapping activities it was relatively easy to keep track of expenses because the work was done by a small team. For the MDA, the program becomes much more complicated (due to a bigger budget) so SCI is working with MAP International, a US charity with an office in Côte d'Ivoire. MAP's financial team will handle the accounting and auditing responsibilities and report back to SCI on a monthly basis. However, as done previously, money will only be released to the program upon receiving a pro forma invoice detailing what the amount is for and aligned with what has been submitted in the annual work plan and budget.

In Côte d'Ivoire, SCI is registered as a charity and had its own bank account. In DRC, there is a much higher financial risk, so DFID advises against SCI setting up a bank account and instead SCI is working through an in-country partner.

SCI wants to build capacity in the countries it works. The staff are trained in accounting (as well as other disciplines such as data cleaning, SCH lab techniques and diagnostics, monitoring and evaluation activities, etc.), and SCI reinforces this. However, SCI still needs to double check the results to ensure it is reporting accurately.

Data processing and analysis

Data is entered at the country level. For example, data from mapping and sentinel sites can be handled by students at a local university. The data is double entered to ensure accuracy. The original forms stay in the country and the database is sent to SCI, which can then run analyses. SCI is planning to expand its data analysis team.

In the spring, SCI's biostatistician will teach a data cleaning session to program staff in Côte d'Ivoire. In the future, SCI will consider doing more advanced data analysis training in all the countries it supports.

Dr. Nogaro's travel

Dr. Nogaro has visited Côte d'Ivoire several times over the last year, often dealing with multiple activities on each trip:

- One month last November to oversee the sentinel sites activity and obtain baseline information for both prevalence and intensity of infection, help with the MDA, and oversee the start of the second phase of mapping,
- One month in January to work on the coverage survey, work on financial reporting, oversee mapping, and help with drafting the annual work plan and budget (alongside the Ministry of Health),
- Three weeks in May for another MDA,
- One week in June to work with WHO and other partners for the integrated MDA plan and budget work, and
- Three weeks this month to follow up with CHWs in low coverage areas, oversee the sentinel sites activity, and oversee the first integrated MDA and training.

She has also visited DRC three times, with another trip planned in November. It is important to visit the country as the program is starting because the country needs more guidance at this stage. In DRC and Côte d'Ivoire, the program staff have been really receptive to guidance.

A physical presence also helps build trust and coordinate with other partners in the country. The partners in both Côte d'Ivoire and DRC are communicating well with the Ministry of Health and with each other. They are very cautious about avoiding funding the same activity twice.

It is easier to communicate and sort out problems when visiting the countries. Over time, it is possible to visit less often if the program is working well.

Population and school enrollment data issues

In Côte d'Ivoire and DRC, census data is old. For the DRC, the data is from 1984, and updates since then are just projections, including what proportion of the population is school-aged children. In planning treatments, the program relies on lists of schools from the Ministry of Education.

Few organizations collect population data. The African Programme for Onchocerciasis Control (APOC) does collect some data from communities it works in prior to treatment. In those areas, SCI can reuse the data APOC has collected.

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