RBM Case Management Working Group

9th Annual Meeting 29-30th August 2017

S&C Orangerie, Grellingerstrasse 75A, 4052 Basel, Switzerland

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Secretariat: Konstantina Boutsika
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Tuesday 29th August 2017 - Day 1

Session 1: Introductions, objectives, technical presentations

Chairperson: Elizabeth Juma (could not attend)

Welcome and introduction of participants

Patrick Kachur (Co-Chair of CMWG, CDC, USA) opened the meeting and welcomed the participants to the 9th CMWG annual meeting. He excused his colleague, Elizabeth Juma, Co-Chair of the Working Group who unfortunately could not attend the meeting. He thanked those who managed to attend in person, so that this meeting could take place and report back on the progress to the RBM Board.

An introduction round was held including the expectations of the participants for the CMWG in the upcoming years (list of participants, page 17).

Overview of agenda and objectives for CMWG-9

Patrick Kachur gave an overview of the objectives:

1. Reconvene global malaria Partners to share experience and evidence on best practices for improving malaria case management.
2. Review terms of reference for CMWG in the revised RBM Partnership.
3. Decide on future leadership and organizational structures (including Co-Chair selection and deciding on the work streams).

In the past the works streams were organized in:

- Expanding Access
- Diagnosis
- Resistance
- Pharmacovigilance

It should be considered whether this should be continued or if there are other themes or priorities. Other thoughts should be given about nominating and selecting leadership.

Patrick gave an overview of the meeting agenda (page 15). He presented the topics from the last meeting (CMWG-8) and gave an update on the developments on policy level that affect case management. Many of the current participants have had a role in one of these issues.

- Global Technical Strategy, Action & Investment (formerly GMAP2).
- Antimalarial drug quality and safety.
- RDT product testing of WHO and FIND (it just completed round 7. It will move into the WHO prequalification scheme rather than having an independent system for evaluation on pre-approval).
- Case management and RDTs in private sector.
- Adapting to the Ebola emergency.
- iCCM and Rapid Access Expansion Programme (RAcE) project.
- Severe malaria commodities (challenges with quantifying and anticipating).
- Measuring and improving adherence.
- Global drug efficacy networks.

- Artemisinin resistance markers.

Patrick gave an update on the topics related to the previous work streams and milestones that have occurred since the last CMWG meeting in 2014.

Pharmacovigilance

Last year, WHO convened an evidence review group (**ERG) on cardiotoxicity of quinolone antimalarials** in particular: **CQ, mefloquine, quinine, quinidine, AS+AQ, DHA+PIP**. These are all drugs that can cause ventricular tachyarrhythmia and even severe or fatal cardiac conduction abnormalities. The Global Malaria Programme (GMP) convened a panel of experts both in malaria and in the drug induced cardiac anomalies. The upshot was that there is a **risk of ventricular tachyarrhythmia and sudden death** associated with these antimalarial drugs but that it is **very low**. It would be helpful to systematically collect additional information to better quantify this risk but it needn't necessarily affect the use of, particularly AS+AQ or DHA+PIP, for malaria case management and even in some cases for broader uses like mass drug administration (MDA).

There has been some developmental and applied research around the potential use of **endectocides**, in particular **ivermectin**, as a component of antimalarial treatment or MDA tool. These drugs have broad antiparasitic activities; they not particularly active against malaria parasites. But they do have an impact of killing mosquitoes that feed on people who have active ingredient in their bloodstream. There has been some work looking at ivermectin and potentially what kinds of changes to the formulation would be necessary to affect the pharmacodynamics to the extent that a single encounter treatment would provide a long window of protection. Right now the half-life of these drugs is limiting the ability to be practically useful as a **transmission reduction tool**.

Antimalarial drug resistance

There has been a lot of activity globally around antimalarial drug resistance both on the technical and the evolving policy side.

WHO and Partners have been more specific about their definition of the **criteria for classifying artemisinin resistance (AR)**. There has been much work on refining the **molecular markers of artemisinin resistance**. Through some of that work, it has become clear that **AS foci have emerged independently** in almost all of the countries of the Greater Mekong Subregion. It has not emerged once and spread from a central location but there have been multiple foci where drug resistance has emerged. Previous efforts focused on containing drug resistance. With this finding, containing becomes less of a relevant model. There has been recent work late last year around observations in Western Cambodia where a particular **parasite lineage that was resistant** to artesunate and to piperaquine was identified and appeared to be expanding by overtaking other lineages throughout the region. If this parasite population carried the potential to be resistant to both classes of drugs was expanding geographically, that was concerning. As part of that, WHO has re-emphasized **prioritizing regional elimination**, especially in the Greater Mekong countries, to address the threat of multi-drug resistant malaria. There is still a **role for MDA**, perhaps with Partners other than piperaquine in that region to contribute to elimination. There has been progress in reducing the burden of malaria substantially in that region. There is a lot of emphasis on measures to **protect the partner drugs**, including developments towards extended duration of therapy with ACTs (longer than 3 days) and **triple combinations**.

South America may be another focus on this concerning phenomena of drug resistance. There is something happening in the **Guyana Shield** with respect to artemisinin sensitivity: there are signals from drug efficacy studies that suggest there is a slow clearance time in some parasites and there are K-13 markers identified with resistance.

Diagnosis

A transition to WHO prequalification program for malaria RDTs (mRDTs) is currently underway. WHO also issued **guidelines for local RDT quality control**. This goes beyond the product testing done on the global level; it is guidance for countries and procurement Partners to determine the quality of diagnostics when they arrive in the country and after they have been distributed.

There has been a lot happening on the issue of the **HRP2 deletion situation and guidance**. This was a phenomenon described in the Americas where it was discovered that there were *Plasmodium falciparum* that didn't make the HRP2 (histidine-rich protein 2) or HRP3. That protein is the basis for the most widely used RDT for *P. falciparum.* That is a great concern. In the last 2 years, it has been documented that this phenomenon can occur outside of the South America (evidence from Eritrea, India, DRC, etc.). WHO has elaborated guidance on how to investigate HRP2 deletion and how to do surveillance and consequences for the programs and the procurement of diagnostic tests (**highly sensitive HRP2 RDT**).

There was an ERG about the need for **G6PD field tests.** These could detect the potential for people to develop hemolysis when given radical cure treatment for *P. vivax* and *P. ovale* malaria. There is consensus that low dose primaquine for the purpose of eliminating *P. falciparum* gametocytes could safely be adopted without G6PD testing. But if needed to give primaquine for a week or longer to eradicate liver stage parasites there is a need to individually do G6PD testing before.

There was a recent ERG on **submicroscopic infections** which looked at to what extent low density parasitemia is contributing to ongoing malaria transmission and to what extent it should be treated. There is at least one approved highly sensitive rapid diagnostic test that can detect these lower levels of parasitemia than conventional RDTs or microscopy.

Expanding access

An update will be given on **severe malaria drugs and formulations** later on this day. There has been continued progress on iCCM evidence base since the last CMWG meeting in 2014. Some of the mortality outcomes studies for example in Malawi and Ethiopia came out and the RAcE project is reaching its endpoints.

An interesting development is around **universal access** to diagnosis and treatment. The Sustainable Development Goal (SDG) 3 does address universal access in a more deliberate way. WHO wants to engage the case management community on how to assess access to case management as an intervention, **reviewing existing coverage gaps**, **assessing barriers to access** and come up with **strategies to overcome** them. At the last Malaria Policy Advisory Committee (MPAC) meeting, access to diagnosis and treatment has been identified as a priority.

Later on this meeting, we will hear more about **proactive iCCM** in Mali and the Zambian experience on **diagnostic and therapeutic tools outside conventional case management.**

Discussion

- One person commented that there is a need to focus on the access to diagnosis and treatment for mobile populations.
- One person mentioned that seasonal malaria chemoprevention (SMC) and malaria in pregnancy and their implication for case management should be added to the discussion.
- One person suggested that the discussion about access to treatment should be broadened beyond malaria to the appropriateness of treatment because what is often seen is that people get antimalarials but they might not have malaria but another febrile illness. The same problem exists with administering antibiotics. To give the appropriate drug to a person, good diagnosis is needed.
- Another person commented that a lot of the recommendations are for elimination settings and wishes more guidance for high transmission settings.

RBM Secretariat issues: Presentation of RBM architecture and Working Group TORs

Konstantina Boutsika (Secretariat RBM CMWG, Swiss TPH, Switzerland) gave an update on the RBM Partnership and the Working Groups. The Roll Back Malaria Partnership is a global platform for coordinated action against malaria. More than 200 Partners committed to a malaria-free world are working together to help scale up malaria-control efforts at country level, ensure optimal use of existing resources, avoid duplication, encourage the development of novel therapies and interventions, mobilize new resources and keep the spotlight on malaria as a priority on the global health and development agenda.

RBM has a new board and a new CEO: Kesete Admasu, former Minister of Health, Ethiopia. The RBM Partnership to End Malaria structure includes the Partnership Board, CEO & Management Team, Partner Committees and Working Groups. There are 3 Partner Committees: (1) Strategic Communications, (2) Advocacy and Resource Mobilization, (3) Country/Regional Support. The former sub-regional networks became part of the Country/Regional Support. The CMWG is part of the Working Groups. These are established as needed by Partners to facilitate and streamline specific bottlenecks and coordinate partner technical implementation efforts. The Working Groups are a critical mechanism within RBM and their role is technical to share information among Partners and to collaborate on specific topics. The Bye-Laws are revised and updated from the new board. Working Groups are designed to be set-up and supported by Partners and not core RBM resources. The Working Groups receive targeted funding from donors for their coordination (Secretariat), e.g. PMI (MERG), SDC (CMWG, VCWG, MSWG). The CMWG has to decide how they want to function and present to the new Board and CEO on the following: **Principles of operation, guidance on membership and accreditation, interaction with Partner Committees (incl. the identification of any overlap to avoid duplication).** Konstantina informed about the new location of RBM in Geneva (no more at WHO but close to Global Fund offices) and updates on the TORs. There are two parts – structure and procedure/reporting. The part on the procedures/reporting needs a careful look by the CMWG. The group has to come up with an idea on **what the ideal model of interaction between Working Groups and other Partnership governance structures could be** and present to the Board.

Discussion

- It is asked to share experience of the past and other Working Groups on what worked well. Konstantina explained that key people from other Working Groups on specific topics could be invited to CMWG meetings. An example is the Vector Control Working Group and the Monitoring and Evaluation Reference Group that currently work together on updates of IRS.

- It is commented that the target should be engage more people in the CMWG, similar to the VCWG that counts 250 participants at their annual meetings and over 1500 members on the membership list.
- It is asked for some clarification of the role of the Working Groups. Konstantina explained that the role of the WG is not to issue guidelines – this is the role of WHO – but to help WHO by bringing the Partners together and identifying the activities and issues to address. Someone added that the role is to look at how to implement the WHO guidelines on the ground. The Co-Chair added that the advantage of the WG is that anybody can join and it needs multiple Partners to effectively implement something.

Experiences with severe malaria observatories and issues

Pierre Hugo (MMV, Switzerland) presented on the severe malaria observatory and the progress after three years since the last CMWG meeting. He reminds that severe malaria is a focus of case management. He gave an update on injectable artesunate: about **100 millions of vials were delivered** since WHO prequalification and additional **500'000 to 600'000 lives saved** in comparison to treatment with quinine. Currently, there is only one WHO prequalified manufacturer. Many countries have adopted injectable artesunate first line for severe malaria treatment. Fewer countries have adopted rectal artesunate (RAS) for pre-referral treatment of children with severe malaria that don't have immediate access to a health centre.

Kim van der Weijde presented the severe malaria observatory platform. The platform has been developed by engaging many stakeholders from organizations and the countries and the inputs from the CMWG are very important to this platform. It is an information repository of the severe malaria landscape. The purpose is to share new findings and lessons learnt and to be a catalyst for new projects. General information but also country specific information about severe malaria can be found on that website including the burden, sources of funding, national malaria policy, community case management, quality assured product, dosing recommendations, tool kits and training materials, stories and films from the field. Kim called on the CMWG participants to send her information about ongoing projects in severe malaria that can be put up on that website. It's a big opportunity to sharing key lessons learnt on case management of severe malaria.

Pierre Hugo gave an update on current activities that are funded by MMV or other funders. A project funded by Unitaid is looking at increasing access to quality assured products for malaria chemoprevention and pre-referral treatment of severe malaria. A project funded by the Global Fund in Kenya is looking at monitoring quality of inpatient malaria case management at Kenyan county hospitals. To determine levels and trends: availability/knowledge/coverage of health care workers, hospital commodities and services. A project funded through MMV with the international development organization Transaid in Zambia is developing innovative approaches to increase rural access to commodities for the case management of severe malaria. There is another big project funded by Unitaid, involving MMV, CHAI, Unicef and Swiss TPH in Uganda, DRC and Nigeria about community access to rectal artesunate for malaria. A project funded Aga Khan Foundation is analyzing the existing gaps in the Mopti region of Mali between WHO guidance and de facto malaria prevention and treatment practices at the community level. There is a project in pharmacovigilance in modified cohort event monitoring (CEM) to study all adverse events to Injectable AS, Injectable Artemether (AR) and quinine (Q) in Ghana and Uganda. Pierre Hugo stressed that the repository in

severe malaria is hosted by MMV but for the global community. It is funded by MMV for the next 2-3 years and then hopefully be transitioned to another organization.

Discussion

- It is asked if there is any monitoring done on artemisinin resistance in relation to using artemisinin as a monotherapy in initial stages of treatment for severe disease. It's explained that there are publications on this issue on the platform.
- It is asked if there is interest from the CMWG community looking at other age groups than children under 6 years of age and update that knowledge base, i.e. older children because WHO guidelines are made for 6 month to 6 years of age. It is answered that the CMWG community could collect evidence from the field of other age groups and could share it on "severe malaria observatory" and eventually influence WHO guidelines.

Experiences with an antimalarial drug resistance network

Eric Halsey (CDC/PMI, USA) gave a presentation on the **PMI-supported Antimalarial Resistance Monitoring in Africa (PARMA) Network**. He explained about the routine monitoring of antimalarials: all PMI countries should have ongoing or recent **therapeutic efficacy studies (TES)**, WHO recommends testing every 2 years, the number of sites depends upon country-specific epidemiology and often testing is done for 1st and 2nd line drug. He explained the decision-making process: depending on the TES results, no change in treatment policy is necessary or to change ACT or find alternative non-ACT options is necessary.

The PARMA Network has 2 objectives: 1) To assist PMI countries in testing malaria samples from TES for genetic markers associated with antimalarial resistance 2) To support training and capacity building of African collaborators who possess the sufficient infrastructure: laboratory (e.g., real time PCR, thermocyclers, gel electrophoresis), bioinformatics (e.g., computer with sufficient memory and processing power).

When TES are done, the collected **phenotypic data** is compared to **genotypic data** (molecular markers of resistance). There is a strong case for endemic resistance if the phenotypic data and the genotypic data support each other. Eric showed some preliminary results in 6 African countries. It was looked at different molecular markers including k13, mdr1, pfdhfr, pfdhps and pfcrt. No confirmed or candidate markers of artemisinin resistance (i.e., known SNPs in the k13 gene) were detected. Low level of other polymorphisms were observed (e.g., A578S) that are not associated with resistance and frequently found in Africa. Mutations in the pfmdr-1 gene were associated with resistance to lumefantrine (partner drug).

If a concerning result is found, **NMCP, WHO**, and other relevant parties are **notified**, **follow-up confirmatory studies** in consultation with WHO are planned, and it is engaged with NMCP and WHO in **reviewing treatment policy and options** for first-line ACT (e.g. Angola).

Discussion

- It is asked how it is made sure that drugs used in therapeutic efficacy studies (TES) are genuine. It is answered that WHO will centrally procure for TES and guarantee that they are authentic.

- It is asked how treatment adherence is secured in the trials. It is answered that this is different from study to study. It can be directly observed or people have to bring back the empty package to get the next dose or whenever possible drug levels are tested.
- It is asked how the resistance results influence the recommendations of the National Malaria Control Programme and whether there is a threshold hat to change the treatment. It's said that the decision is made together with NMCP, WHO, and other relevant parties.
- It is commented that TES should be integrated into a surveillance system of fever to not only detect malaria but also other diseases and prevent epidemics.

Experience implementing proactive iCCM

Diakalia Koné (Director of the National Malaria Control Program, Mali) and Madeleine Beebe (Muso, USA) presented on proactive case detection, early malaria treatment, and child survival in Mali. There is a **robust malaria research community** and **strong government support** for research and national scale-up of emerging best practices. However, **only 15% of children received effective malarial drugs** within 24 hours of fever onset and **only 2% of children received the recommended type** of antimalarial within 24 hours of fever onset. Proactive early detection and treatment is considered to be important to stop malaria progression, prevent parasite transmission and improve outcomes beyond malaria because early treatment also improves outcomes for pneumonia, diarrheal disease, and newborn sepsis, the other leading causes of under-five mortality.

Madeleine Beebe presented results from different countries using community-based treatment of malaria, mostly via integrated community case management (iCCM). Some results are not very promising. In Ethiopia, only 8.5% of febrile children aged 0-5 received care from their community health worker. There's no change in ACT for fever in Burkina Faso after national iCCM scale-up and zero mortality difference is seen in three national studies of iCCM (Ethiopia, Malawi, Burkina Faso). In contrast to these results, there are also other more promising results of the impact iCCM can have. Hence, Muso has been looking at how to fix the design flaws of iCCM. They promote the ProCCM model. One component is **the proactive search** of the community health workers (CHW) that goes and visits the families **(doorstep care)** to check whether there are any health issues and do counseling on prevention. If referral is required, the CHW sends them to the nearest government health center **(rapid access clinic).** Part of the model is also to reinforce the capacity of these health centers. Last part of the model is the **removal of user fees** both at the community level and at the clinics. At the moment Muso pays for care but they try to reinforce the capacity of the government to take it over. A pilot study with ProCCM in peri-urban Bamako has shown that access to care increased on health facility and community level and under-five mortality has dropped from 15.5 % in 2008 to 1.7 % in 2011. A current study is now looking at whether CHW who proactively search for patients increase early access to treatment and decrease child mortality compared to passive CHW.

Discussion

- It is asked how supervision of the CHW is done and how continuity of the supply chain is ensured. It's replied that initially the health centers were in charge of the supervision but do to work overload supervision was often not done. Hence additional staff has been trained and paid by Muso to do supervision. The program works with the government based supply chain.
- It is asked if the study includes a cost-effectiveness analysis. Yes, it does.

- One person commented that in a similar project, not only the active visits of the CHW increased but also the passive care seeking.

Session 2: Work streams

3 groups are created to discuss the topics of the work streams:

- Group 1: Increasing access to quality case management.
- Group 2: Quality care improvement.
- Group 3: Right approach, right time in case management.

Wednesday 30th August 2017 - Day 2

Results from Mass Drug Administration in Zambia

Busiku Hamainza (National Malaria Elimination Program, Zambia) presented results from a 2-year trial of 4 rounds of mass treatment for malaria 2014-2016 in Southern Province, Zambia. These results have influenced the Zambian strategy in malaria: MDA was added as an intervention to the current interventions to accelerate malaria elimination. All areas received an improved standard "package of interventions" including implementation information, vector control, case management and case investigation. On top of this package the MDA was included. The drug chosen was DHAp (dihydroartemisinin+piperaquine). MDA was done before high transmission season, 2 rounds per year for 2 years. Compared to control, MDA had consistent and substantial impact after the first 2 and again after 4 rounds. There were also entomological studies conducted and it has shown that in areas were the vector shifted from *Anopheles funestus* to *An. arabiensis,* there was less malaria and in areas were *An. funestus* remained the dominant vector, infections were higher. Death rate and hospitalizations were reduced substantially in the study site after 2 years (-98% and – 78%) but there was also a reduction in the control site. What happened?

- Very high IRS and new LLIN distributed.
- Shift of vector population from primarily *An. funestus* to *An. arabiensis* (less competent vector).
- Lots of investment made in community engagement and capacity strengthening.
- Increasing access to diagnosis and treatment via community case management.
- Improved surveillance system.
- MDA: 336'821 courses of DHAp distributed across 4 rounds in mass treatment areas.

Discussion

- It is asked what the current situation is now. It's responded that there was no more increase in malaria but now it is looked at what can be done to achieve elimination.
- It is asked what the coverage of MDA was. It's responded that it was about 85% in the targeted areas. A communication strategy was developed engaging community leaders, religious leaders, CHW, etc.
- It is asked what might have caused the change in the vector. It's estimated that it's due to the IRS that depleted the *An. funestus*.

- It is asked how this high increase in care seeking and treatment was achieved. It's responded that there was an extensive effort towards community based mobilization with a bottom-up approach by talking to community leadership and developing a strategy together.

Informal small group work

The topics from the 3 groups are reconsidered in plenary:

- Group 1: community case management, behavior change communication (BCC) and information, education and communication (IEC), supply chain and private sector, continuum of care.
- Group 2: improving quality of care, drug resistance, pharmacovigilance, diagnostics quality assurance, severe malaria, surveillance, algorithms for diagnosis and fever.
- Group 3: right time, right approach in case management, multiple first-lines, chemoprevention, introducing new tools, emergency situations, elimination and asymptomatic carriers.

In small groups, work plans are elaborated for the timeframe of September 2017 to August 2019.

Report back from work stream small groups

Group 3 started presenting the results of the discussion. The first problem identified is that countries need to change rapidly 1st-line therapy when resistance exceeds WHO guideline thresholds but are not always prepared. Potential solutions identified include:

- Collecting current guidelines to identify countries that do not have back-up regimens in place.
- Collecting experience where possible on putting in place back-up regimens.
- Position paper on need, challenges, and how to overcome challenges, based on the above.

The second problem identified was that many different forms of chemoprevention (SMC, IPT) exist but only little is documented on experience, challenges, roadblocks, and how to overcome them. Potential solutions include collecting experience of introducing and running chemoprevention programmes and a position paper on experience and learning. Third identified problem is that plenty of guidance on how and when countries should move through the various stages of the pathway from control to elimination is available, but there is little documented experience. A manual should be developed to complement formal WHO Guidance on how to implement this guidance based on experience of countries (e.g. Sri Lanka) that have been through the various stages. The fourth identified problem is there are many new tools in development but it is often difficult to know at what stage they are and what is their intended role. Experience of using these new tools is not always readily available. It is proposed to develop a database of new tools in development. Fifth problem identified is that advice and guidance on how to ensure that malaria is properly prevented/treated in emergency situations (Ebola-like, refugees, epidemics, etc.) based on guidelines available and in development is not always available. The last problem identified is that migrants spread malaria and have poor access to care. Experiences on how to engage with commercial Partners and cross-border case management need to be collected.

Discussion

- It is commented that it should be reached out to organizations that are not present in the meeting and a contact person for each work stream group should be appointed. For Group 3 it is Ian Boulton.

Group 2 presented their discussion results. They have 5 topic areas including severe malaria, algorithms for diagnosis of fever, quality control of malaria RDTs, resistance/pharmacovigilance, and quality improvement for malaria case management. In **severe malaria**, there is a need for a landscape analysis and generating new information on rectal artesunate. It was discussed what support could be provided to countries that face challenges to adhere to WHO guidelines. It was also discussed how community and health facilities can be supported to identify severe cases and improve patient care from the community to health facility level. With respect to **algorithms for diagnosis of fever**, challenges around implementation issues were discussed as well as what kind of tests to use for malaria, given the issues with HRP2 deletion. The outcome of the discussion was to liaise with the RDT procurement taskforce, a group with the major procurement agencies. With respect to the **quality control/assurance of malaria RDTs**, there is a project of FIND and WHO to decentralize the lot testing program aiming at building capacity in national reference laboratories of malaria endemic countries for quality control of malaria RDT. On **resistance and pharmacovigilance,** there are 2 main points of discussion: capacity building for sequencing in endemic countries to detect molecular markers associated with resistance (project of CDC) and developing a target product profile for new combinations of existing drugs for seasonal malaria chemoprevention (project of MMV). On the topic of **quality improvement for case management**, it was discussed that the group should liaise with the GMP at WHO for the dissemination of available information because there are different models used in different countries.

Discussion

- The contact persons for Group 2 is Christian Nsanzabana and Pierre Hugo

Group 1 presented their discussion points on increasing access to quality case management including symptoms (1), care seeking (2), diagnosis (3) and treatment (4). The group listed the next steps after the meeting including prioritizing gaps for the four areas, looking at synergies with other work streams, and identifying projects/activities of members/organizations of the work stream in these four areas. Kim van der Weijde and Mila Nepomnyashchiy are the contact persons for Group 1.

It is agreed that the work stream plans will be finalized and sent out to the whole CMWG including members that could not make it to the meeting by the 10th of September 2017.

Discussion of draft Terms of Reference and plan for finalizing

The Terms of Reference (ToR) are discussed in the plenary. The ToR of the Social and Behaviour Change Communication Working Group (SBCCWG) serve as a template as they updated their ToR recently. However, the structure for the CMWG will be different. Ian Boulton will draft the ToR.

Discussion

- It is asked if the ToR can be draft after the work plans have been finalized and the main areas of activities defined. It is replied that the ToR can still be adapted according to the process of defining the focus areas of the Working Group.

Process and nomination for CMWG Co-Chairs

The process and nomination for the CMWG Co-Chairs are discussed in the plenary. The CMWG will have to elect to Co-Chairs.

Discussion

- It is asked if there is a standard methodology to select the Co-Chairs. It is answered that it is a computer-based election open to the whole membership. People are nominated prior to elections.
- It is asked how the nomination process works. It is replied that in the past, there were self-nominations and people nominating other people. But for the future, it should be built in to the ToR how the nomination process works.
- It is asked how the voting process in other Working Groups such as the Vector Control Working Group (VCWG) functions. It is explained that they have members with core member status and observer status. The core members are eligible to vote, there are one or two people per institution.
- It is asked if the work stream Co-Leaders are also elected by the whole membership. It is replied that this is not going via voting. The structure of the work streams is under the responsibility of the Co-Chairs.

There is no other business and the meeting is closed by the Co-Chair Patrick Kachur.

List of acronyms

ACT	Artemisinin Combination Therapy
AM	Artemether
AR	artemisinin resistance
AS	Artesunate
AQ	Amodiaquine
BCCWG	Behavior Change Communication Working Group
CDC	Centers for Disease Control
CEM	cohort event monitoring
CHAI	Clinton Health Access Initiative
CHW	community health workers
CMWG	Case Management Working Group
DRC	Democratic Republic of Congo
DHA-PIP	dihydroartemisinin-piperaquine
ERG	Evidence Review Group
GMAP2	Global *Malaria* Action Plan 2
GMP	Global Malaria Programme
G6PD	glucose-6-phosphate dehydrogenase
HRP2	histidine-rich protein 2
HRP3	histidine-rich protein 3
iCCM	integrated community case management
IEC	information, education and communication
IPT	intermittent preventive treatment
IRS	Indoor residual spraying
LLIN	Long-lasting insecticidal net
mRDTs	rapid diagnostic tests for *malaria*
MPAC	Malaria Policy Advisory Committee
MDA	mass drug administration
MERG	Monitoring & Evaluation Reference Group
MMV	Medicines for *Malaria* Venture
NMCP	National Malaria Control Programme
PARMA	PMI-supported Antimalarial Resistance Monitoring in Africa Network
ProCCM	proactive community case management
PCR	Polymerase Chain Reaction
P. falciparum	*Plasmodium falciparum*
PMI	President's Malaria Initiative
Q	quinine
RAcE	Rapid Access Expansion Programme
RAS	rectal artesunate
RBM	RBM Partnership to End Malaria
RDT	rapid diagnostic test
SDG	Sustainable Development Goal
SDC	Swiss Agency for Development and Cooperation
SNPs	Single Nucleotide Polymorphism
Swiss TPH	Swiss Tropical and Public Health Institute
SMC	seasonal malaria chemoprevention
TES	therapeutic efficacy studies
ToR	Terms of Reference
Unicef	United Nations Children's Fund
VCWG	Vector Control Working Group
WHO	World Health Organization

Agenda

Tuesday 29th August 2017 Day 1		
9:00 - 10:00	**Arrival and registration with welcome coffee/tea**	
Session 1	**Introductions, objectives, technical presentations**	**Chairperson** **Elizabeth JUMA**
10:00 – 10:20	Welcome and introduction of participants	Patrick KACHUR
10:20 – 10:30	Overview of agenda and objectives for CMWG-9	Elizabeth JUMA
10:30 – 11:15	*RBM Secretariat issues* Presentation of RBM architecture and Working Group TORs (20 min) Question and answers Discussion	Konstantina BOUTSIKA
11:15 – 12:00	*Global updates* Recent issues in malaria case management since 2014 (15 min) Update from WHO-GMP (15 min) Discussion	Patrick KACHUR TBD
12:00 – 12:30	Experiences with severe malaria observatories and issues (20 min) Discussion	Pierre HUGO
12:30 – 14:00	**Group photo** **Buffet lunch**	
14:00 – 14:30	Experiences with an antimalarial drug resistance network (20 min) Discussion	Eric HALSEY (Meera VENKATESAN)
14:30 – 15:00	Experience implementing proactive iCCM (20 min) Discussion	Diakalia KONE Madeleine BEEBE
15:00 – 15:30	**Afternoon break**	
Session 2	**Work streams**	**Identify chair and rapporteur**
15:30 – 18:00	Small group work in work streams • ACCESS • DIAGNOSIS • RESISTANCE • PHARMACOVIGILANCE?	Self-select

End of Day 1		
Wednesday 30th August 2017 **Day 2**		
8:30 – 9:00	Results from a 2-year trial of 4 rounds of mass treatment for malaria 2014-2016, Southern Province, Zambia (20 min) Discussion	Busiku HAMAINZA
9:00 – 10:30	Report back from work stream small groups Discussion in Plenary	All
10:30 – 11:00	**Morning break**	
11:00 – 11:30	Discussion of draft Terms of Reference and plan for finalizing	
11:30 – 12:00	Process and nomination for CMWG co-chairs	
12:00 – 12:30	Any other business	
End of Day 2		

Sponsorship of affected-country participants is provided by *the Swiss Agency for Development and Cooperation (SDC) and Swiss Tropical and Public Health Institute (Swiss TPH).*

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