



Second meeting of the Vector Control Technical Expert Group (VCTEG)

Meeting report, 24–26 January
2014, Geneva, Switzerland



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BACKGROUND

The Technical Expert Group on Malaria Vector Control (VCTEG) is tasked with reviewing and providing guidance and making draft recommendations to the Malaria Policy Advisory Committee on the implementation of malaria vector control including issues related to programme management. The VCTEG is constituted by and reports to the MPAC.

The responsibilities of the TEG on malaria vector control are to:

- Review and recommend to MPAC on the predicted effectiveness and appropriate mix of vector control interventions for particular situations – including the adoption of new forms of vector control following recognition of “proof of principle” from the Vector Control Advisory Group (VCAG)¹;
- Formulate and propose to MPAC evidence-based norms, standards and guidelines for the implementation and management of malaria vector control;
- Address policy issues related to building capacity for entomological monitoring and optimization of vector control investments; and
- Identify gaps in evidence and suggest specific areas of priority research to improve management and implementation of malaria vector control.

The second meeting of the VCTEG was convened on 24 – 26 February 2014 at WHO Headquarters in Geneva, Switzerland.

OBJECTIVES

The specific objectives of the meeting were to:

1. Review and finalise draft recommendations on ‘*Crisis mitigation when faced with short-term gaps in LLINs coverage*’ for MPAC consideration
2. Review ‘*Guidance on the development of a national insecticide resistance monitoring and management plan, including annual work plans*’
3. Review and finalise draft guidance on ‘*Combining indoor residual spraying and long-lasting insecticidal nets*’ for MPAC consideration
4. Review ‘*Control tools for residual malaria transmission in relation to behaviourally resilient or resistant vector populations*’
5. Review and finalise draft recommendations on ‘*Sound management of old long-lasting insecticidal nets*’ for MPAC consideration
6. Review ‘*Manual for entomological monitoring in malaria control and elimination programmes*’
7. Review and finalise clarification note on ‘*Estimating population access to insecticide treated nets versus quantifying for procurement for mass campaigns*’ for MPAC consideration
8. Identify other areas for policy guidance

¹ A group managed jointly by the Global Malaria Programme (GMP) and the department of Neglected Tropical Diseases (NTD)

Opening remarks

Dr John Reeder, acting Director of the WHO Global Malaria Programme, opened the meeting. He acknowledged the contributions of the group in compiling and reviewing technical overviews on challenges facing vector control, and providing policy recommendations and technical guidance for further reducing the burden of malaria. An update on the status of the Global Technical Strategy for Malaria: 2016-2025 was provided.

The chairperson of the VCTEG, Dr Melanie Renshaw, reminded the meeting of the responsibilities and process of the meeting and gave an overview of the agenda. She indicated that the meeting would be reviewing technical papers prepared by members, technical advisors and resource persons to generate guidance and recommendations for presentation to MPAC.

ITEMS REVIEWED AND ARISING RECOMMENDATIONS

Crisis mitigation when faced with short-term gaps in LLINs coverage

A background document produced by J. Lines, M. Lynch, P. Walker, J. Griffin, M. Renshaw and A. Mnzava was reviewed by the meeting. This document originated following requests from countries on how to address anticipated shortfalls in planned LLIN coverage due to resource limitations. The document was based on feedback from two independent groups of modellers who investigated a range of scenarios in which malaria risk was assumed to be heterogeneous. Two possible patterns of LLIN coverage were considered: vulnerable group targeting or geographical targeting. Based on this, a decision-making framework was developed to assist in planning LLIN distributions when the number of LLINs available is lower than the number needed for universal coverage.

The meeting amended the document (including the flowchart) for clarity and consistency, and to include further information on the modelling approach, vulnerable groups, risk stratification, surveillance, applicable timelines and the proposed prioritisation process. It was felt that greater emphasis was needed on the fact that universal coverage² remains the goal for all people at risk of malaria in line with previous recommendations³. Moreover, it was stressed that in such situations the principal task for ministries of health and their partners is to secure the resources needed to address the LLIN shortage.

The background document will be updated and a short pre-read will be formulated for submission to MPAC for review at the March meeting.

Guidance on the development of a national insecticide resistance monitoring and management plan, including annual work plans

This guidance document was developed to support national malaria control and elimination programmes in the development of resistance management strategies that form part of the vector control component of their national strategic plans. It seeks to further support uptake and implementation of the plan outlined in the *Global Plan for Insecticide Resistance Management in Malaria Vectors* (GPIRM), which was released in May 2012. The focus is on guiding the collection of high quality and relevant data surveillance to inform resistance management strategies.

² Defined as universal access to, and use of, long-lasting insecticidal nets.

³ Vector Control Technical Expert Group. Report to MPAC : Methods for maintaining coverage with long-lasting insecticidal nets (LLINs), 11-13 September 2013, and *WHO Recommendations for Achieving Universal Coverage with Long-Lasting Insecticidal Nets in Malaria Control*

The outline of the document was present by J. Silver, with feedback on structure and specific content provided by the group. In particular, it was felt that additional references to GPIRM, the need for sharing of data to local and regional databases, criteria for selection of sentinel sites (based on a previous document by the African Network on Vector Resistance (ANVR), utility of the Centers for Disease Control and Prevention (CDC) bottle intensity assays, decisions on testing approaches in situations of low vector densities, burden of proof required for switching insecticide classes, and the appropriate mechanisms for supporting decision making on optimal vector control interventions required further attention.

The document will be updated based on feedback and will be circulated to the group via email for further comments. Finalisation of the document is urgent given the need for such guidance when countries are devising their national strategic plans. The group felt that while the document does not need to be reviewed for technical content by MPAC, it would be of use for MPAC to be aware of it. J. Lines, A. Birkinsh and M. Macdonald agreed to draft a short pre-alert on the document for MPAC.

Combining indoor residual spraying and long-lasting insecticidal nets

In an effort to accelerate malaria transmission reduction, a number of countries have implemented universal distribution of ITNs in combination with IRS in recent years. Such decisions were largely based on limited observational studies with variable conclusions, some of which may have been subject to potential confounding and bias. Since the rollout of both interventions requires considerable additional resources, it is important that it is based on good evidence of additional protective efficacy. A technical paper was therefore requested to provide an update and summarise findings from a number of cluster randomised trials (CRTs) comparing epidemiological outcomes in communities receiving IRS plus ITNs with those receiving ITNs alone.

I. Kleinschmidt presented to the group the findings from 4 randomized trials (1 published, 2 completed but not yet published, 1 ongoing), 17 observational studies, 4 modelling papers and 1 trial conducted in a low transmission setting. The group further reviewed in detail the executive summary presented, and agreed that the following points warranted inclusion in the document: critical need to focus on ensuring one intervention is implemented well before a second is added, the need for effective supervision, monitoring and evaluation, and additional resources to ensure quality and high deployment of interventions; need for data from outside of Africa and from different eco-transmission settings; key consideration be afforded to resistance status of mosquito populations in trial areas and also LLIN coverage, use and access.

It was further noted that for trials conducted in low transmission settings, the lack of identification of an additional effect of IRS may be influenced by the low sensitivity of standard indicators (malaria incidence and parasite prevalence). Identified evidence gaps included: effect of long-lasting non-pyrethroid IRS and non-DDT IRS in areas with pyrethroid resistance, effect of adding LLINs to areas with high coverage of IRS, non-inferiority trials (since all trials to date have examined the null hypothesis of 'no effect' which does not necessarily constitute proof for no effect). A new 4-arm randomised controlled factorial design trial is planned for Muleba, Tanzania to examine LLIN, combination LLIN and long-lasting organophosphate IRS.

VCTEG agreed that the background document and recommendations be presented to MPAC in March 2014.

Control tools for residual malaria transmission in relation to behaviourally resilient or resistant vector populations

Responding to a query from MPAC for guidance on control tools for outdoors and early biting *Anopheles* malaria vectors, G. Killeen was approached to conduct a desk review on the current extent of this "residual transmission" and potential tools to address the problem. A draft paper was produced prior to the meeting, which, according to the secretariat, was not ready for electronic

dissemination for review by VCTEG. The author was therefore invited to participate in the meeting in order to provide any update on the status of the paper. However, the author independently sent two versions of the draft to VCTEG members prior to the meeting.

Feedback from the group during the meeting indicated that the paper was not in a format appropriate for review by MPAC. Moreover, due to a lack of appropriate tools to address outdoors or early-biting malaria vectors no appropriate policy guidance or recommendations could be derived.

The author/s of the background paper may publish the current review but this is to be done completely independently of VCTEG. A short summary will be formulated citing relevant literature for electronic review by the group and potential submission to MPAC in September. This will acknowledge that there is a proportion of transmission not affected by current tools that will not be easy to address, that countries should monitor for and report on any observed behavioural changes, and that new tools are needed to address this issue.

Sound management of old long-lasting insecticidal nets

WHO recommendations on the sound management of packaging for long lasting insecticidal nets were provided in 2011⁴. To address the lack of guidance for the management of old LLINs (ie. those that are no longer used within households for the purpose of protecting individuals against malaria), a document was developed reviewing conclusions of a pilot study presented to VCTEG in November 2013. It also consolidated the existing 2011 recommendations plus other background information to provide additional recommendations.

The group had some minor feedback only on some specific wording of the recommendations and background information.

The draft recommendations along with summary information will be edited based on the feedback from the group, and will be submitted for MPAC consideration in March 2014.

Manual for entomological monitoring in malaria control and elimination programmes

Challenges to malaria control and elimination presented by shifts in insecticide resistance status and vector species composition / behaviour underscore the importance of efficient monitoring programmes. Consolidated guidance on key considerations for designing and implementing surveillance activities aimed at supporting timely and informed interventions were therefore devised.

Feedback was provided on a zero draft initiated by M. Macdonald and J. Silver which had been previously circulated via email to VCTEG members. The group indicated that further work on the document is required, particularly to: tailor more to emphasise the need for impact and quality measures of programme performance; distinguish control tool limitations versus failures; emphasise the need for programmatic adaptability and responsiveness to local conditions; include country example/s of existing monitoring programmes; include examples of where monitoring data have

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