

Summary report on the

Ninth intercountry meeting of national malaria programme managers from HANMAT and PIAM-Net countries

WHO-EM/MAL/387/E

Cairo, Egypt
24–26 October 2017



**World Health
Organization**

Regional Office for the Eastern Mediterranean

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Contents

1.	Introduction.....	1
2.	Summary of discussions	2
3.	Recommendations.....	10

1. Introduction

The World Health Organization (WHO) Regional Office for the Eastern Mediterranean convened the ninth intercountry meeting of national malaria programme managers from countries in the Horn of Africa Network for Monitoring Antimalarial Treatment (HANMAT) and Pakistan–Islamic Republic of Iran–Afghanistan Malaria Network (PIAM-Net), two networks for monitoring antimalarial treatment efficacy, from 24 to 26 October 2017 in Cairo, Egypt.

The objectives of the meeting were to:

- review the progress made, challenges and problems encountered in the implementation of malaria control and elimination strategies, and provide technical updates including the situation of artemisinin resistance;
- review results of drug efficacy monitoring studies conducted in 2016 and 2017;
- plan the future activities of HANMAT and PIAM-Net; and
- review implementation of planned activities for strengthening border coordination among PIAM-Net countries.

The meeting was attended by malaria managers and/or focal points for therapeutic efficacy studies from Islamic Republic of Iran, Pakistan, Saudi Arabia, Somalia, Sudan, South Sudan and Yemen, as well as representatives from the Islamic Development Bank, UNICEF headquarters and UNICEF Somalia, UNDP malaria focal points from Afghanistan and Sudan, other malaria experts, and WHO staff from headquarters, regional and country offices. Participants from Djibouti, Ethiopia, Eritrea and Somalia were unable to participate due to logistical problems.

The meeting was opened by Dr Rana Hajjeh, Director, Department of Communicable Disease Prevention and Control, WHO Regional Office for the Eastern Mediterranean. Dr Hajjeh noted the regional vision, goal, targets and milestones for malaria, which are in line with the targets of the Sustainable Development Goals. The regional malaria action plan (2016–2020) is built on three pillars, in common with those outlined in the *Global technical strategy for malaria 2016–2030*. These are: ensure universal access to malaria prevention, diagnosis and treatment; accelerate efforts towards elimination and the attainment of malaria-free status; and transform malaria surveillance into a core intervention. Dr Hajjeh expressed appreciation for the successful work of HANMAT and PIAM-Net in providing countries with the necessary support to monitor the efficacy of antimalarials. She urged malaria programmes to continue their hard work with greater focus and efficiency, and to use the experiences gained by the networks to expand the scope of the work to other areas of malaria control and for other vector-borne diseases.

2. Summary of discussions

Progress and challenges in the fight against malaria at the global level

There has been much progress in expanding access to malaria interventions since 2010, with more people sleeping under a mosquito net, more women receiving preventive treatment in pregnancy and more patients receiving diagnostic tests and treatment with artemisinin-based combination therapy (ACT). However, the global fight against malaria is now at a crossroads. In several countries that are important contributors to the global disease burden, new data suggest disease burden could have returned to 2010 levels. Reducing the intervention coverage gap must become a priority and requires smarter use of existing resources and substantially increased funding. Providing reliable data for decision-making by national programmes

and investment in surveillance systems must be prioritized, smarter investments in research and development accelerated and the availability of new tools with proven efficacy increased. Current funding levels fall short of what is needed. History has shown repeatedly that when malaria control is relaxed the disease bites back with a vengeance.

Malaria situation in the Region

Malaria is endemic in eight countries in the Region, with close to 300 million people at risk of malaria transmission. Significant achievements were made from 2000 to 2015, with a close to 70% reduction in the estimated incidence of malaria. However, the rate of incidence reduction decreased after 2010, and from 2014 to 2016 there were setbacks in some countries that resulted in outbreaks and an increase in cases in some areas. The WHO estimated number of malaria cases increased from 3.9 in 2015 to 4.3 million in 2016.

The Islamic Republic of Iran and Saudi Arabia are at the stage of malaria elimination and are among 21 countries targeted globally for malaria elimination by 2020. In 2016, only 81 indigenous cases of malaria were reported from the Islamic Republic of Iran with only 10 indigenous cases of malaria falciparum. Saudi Arabia witnessed an increase in the number of local cases from 83 in 2015 to 272 in 2016, mainly due to an increase in population movement and difficult access in border areas with Yemen.

Among the main achievements of the WHO regional malaria control programme in 2017 were: supporting countries to increase coverage of diagnosis and confirmation; submission of proposals by endemic countries to the Global Fund; starting implementation of a Global Fund Middle East Response grant for Yemen; the design and implementation

of an integrated district health information system (DHIS2) using a malaria module in Pakistan; planning for implementation of a histidine-rich protein 2 (HRP2) gene deletion survey, finalization of a malaria indicator survey and updating treatment policy in Sudan; conducting a malaria indicator survey in Somalia; therapeutic efficacy studies in Afghanistan, Pakistan, Somalia and Sudan; insecticide resistance monitoring in priority countries; a second regional external competency assessment; and a consultant training workshop for integrated vector management (IVM) and entomological surveillance.

The main planned activities for 2018 are: supporting countries in complex emergency situations, particularly Afghanistan, Somalia and Yemen through malaria interventions in coordination with all stakeholders; capacity-building for priority areas using a mentoring approach for regional consultants on surveillance, elimination, IVM and malaria case management; implementation of the DHIS2 malaria module in Somalia and Sudan; malaria programme review and updating malaria strategies in Pakistan and Sudan; continuation of insecticide resistance monitoring and therapeutic efficacy studies; continuing support for the Islamic Republic of Iran and Saudi Arabia to reach the global target for malaria elimination by 2020; and the certification of malaria-free status in Egypt and Oman.

As progress in malaria burden reduction in the Region is slowing and funding is decreasing, national and local governments need to increase funding allocations for malaria, while international donors need to give priority to high burden countries and those affected by complex emergencies. In national planning, priority for resource allocation should be given to high burden areas and emergency situations to achieve universal coverage, while in high burden and remote areas, collaboration with other programmes to scale up and strengthen community case management of childhood illness is crucial. In

decentralized health systems, local government should be encouraged to take ownership of malaria programmes through financing and human resources allocation. Cross-border collaboration should target well defined agreed areas and should include regular exchange of real time surveillance data and technical cooperation.

Monitoring the efficacy of antimalarials, artemisinin resistance and plans for its containment

Each country presented the results of therapeutic efficacy studies and current drug policies, implementation issues and challenges, and their plans for 2017/2018.

The efficacy of antimalarial medicines is an essential element in the selection of those to be included in national treatment policies. Where surveillance confirms more than 10% ACT treatment failure, effective alternative ACTs should be identified and implemented before resistance reaches critical levels. WHO recommends that falciparum malaria-endemic countries monitor the efficacy of recommended ACTs at least every two years to generate evidence to inform national treatment policy. Therapeutic efficacy studies are considered the gold standard for assessing antimalarial drug efficacy. Areas pursuing malaria elimination are expected to have a strong surveillance system able to detect all malaria cases, treat them under observation and follow them to ensure they are cured.

Patients with delayed parasite clearance are cured by ACTs, provided that the partner medicine remains effective, even in areas of high prevalence of Kelch 13 (K13) mutant alleles. More recently, high treatment failure with dihydroartemisinin-piperazine associated with piperazine resistance has been reported from several countries in South-East Asia. Although delayed parasite clearance during routine

therapeutic efficacy studies of ACTs conducted in Africa has been reported, these reports have not been consistent over time. K13 mutations, including C580Y, have also been reported from many African countries. However, these mutations have not been associated with slow parasite clearance. The most frequent K13 observed in Africa is A578S, but this is not associated with clinical or in vitro resistance to artemisinin. While delayed parasite clearance has not been found in South America, a survey has confirmed the presence of C580Y.

Molecular markers used to monitor antimalarial multidrug resistance

Tools used to monitor antimalarial drug resistance were presented, with a special focus on molecular markers associated with antimalarial drug resistance and molecular genotyping to distinguish between recrudescence and reinfections. SaMARA (Surveillance and Monitoring of Antimalarial Resistance in Africa) is a new online portal project based at the Cochin and Pasteur Institutes in Paris, France, with two next generation sequencing platforms located at the Cochin Institute and the King Abdullah University of Science and Technology in Thuwal, Saudi Arabia, and field site partners in Africa. Its objectives are to provide up-to-date data on the distribution of molecular markers associated with antimalarial drug resistance in Africa and to investigate molecular signatures associated with ACT treatment failure. SaMARA field sites partners will be trained to analyse and interpret their data using applications on the web portal and will be able to visualize the proportions of mutant parasites associated with resistance to artemisinin derivatives, partner drugs combined in ACT, sulfadoxine-pyrimethamine and chloroquine on the SaMARA mapping tool.

Community-based interventions in complex operating environments

Integrated care improves outcomes for malaria, including at the community level, increases treatment rates and care-seeking for fever, reduces the likelihood of antimicrobial resistance, lowers the costs of care, decreases ACT wastage by reducing their overuse and increases care for co-morbidities. Multisectoral support, in addition to disease-specific support, is needed, especially in complex operating environments, using innovations such as capacity-development and data collection using m-health.

UNICEF works with the Global Fund to scale-up integrated community case management and other integrated service delivery platforms, particularly in complex operating environments, and to develop more flexible access to funding and grant management mechanisms. This approach will strengthen the resilience of health facilities and community systems in chronically unstable settings and help ensure the continuation of essential health services, especially diagnosis and treatment, during acute emergencies. Liberia, Sierra Leone, South Sudan and Yemen are countries that have been scaling up and adapting their community health model in the midst of complex operating environments.

Border malaria

The presence of malaria near national borders can have negative effects on control and elimination efforts, because people and mosquito vectors may cross borders. If the malaria situation has similar endemicity on both sides of a national border, and the equilibrium is maintained by similar levels of control effort, there is no need for specific border activities. This was the case, for example, across the Islamic Republic of Iran/Iraq border, where malaria was

hyperendemic on both sides in 1950, but progressively controlled by the two independent national programmes until near-elimination in the 1970s. Border meetings with exchange of information took place regularly, but were not of great importance, as both countries had effective programmes.

In other situations, one country may have a highly effective, well-resourced programme aiming at elimination, while a neighbouring country may be unable to reduce malaria transmission to the same extent in the border area. There is then disequilibrium, where the eliminating country may see its health facilities burdened by patients from the endemic country and focal transmission in border areas (or in vulnerable and receptive areas far from any border) being maintained or ignited by importation. In such situations, the eliminating country would like to see the endemic country do more in the border area and may offer assistance. Such collaboration is not always straightforward.

The relatively low level of control in a border area of a given country can have many, possibly interacting, causes. In some cases, the malaria burden may be much higher, and therefore in need of more attention and resources, in other areas of the endemic country, while in other cases, security problems may constrain control in border areas. Regular bilateral consultation and information exchange should at least lead to mitigation, but the first condition for effective border malaria collaboration is that the eliminating country develops a deep understanding of all dimensions of the malaria problem in the neighbouring country.

Malaria Indicator Survey in Sudan

The Malaria Indicator Survey in Sudan was conducted in 2016. This was the first survey undertaken during the WHO Global Technical

Strategy for Malaria 2016–2030 era and will be the baseline for the third national health sector strategic plan (2017–2020), the malaria control strategy (2017–2020), malaria risk mapping, application for a Global Fund grant and the updating of Sudan’s malaria treatment protocol. The survey was designed to estimate for malaria indicators at the national and state level, stratified according to residence, age group, gender and wealth quintiles. The survey also included estimates of malaria indices among displaced and refugee populations.

The survey found a parasite prevalence of 4.1%, 6.1% and 11.3% in urban areas, rural areas and camps, respectively, and that 41.6% of households reported having at least one long lasting insecticide treated net (LLIN) for every two persons and/or that their houses were sprayed, and 60% of households in targeted states reported having at least one LLIN, with 37% of their populations sleeping under an LLIN.

Islamic Development Bank support for malaria control

Between 2007 and 2013, as part of its Quick-Win Malaria Programme, the Islamic Development Bank supported malaria interventions in six countries (Chad, Gambia, Guinea, Mauritania, Senegal and Sudan). In addition, the Bank celebrated World Malaria Day in its headquarters in April 2015. Currently, the Bank is implementing Lives and Livelihoods Fund malaria projects, supported by five donors, targeting priority member countries, including Sudan, whose main objective is to accelerate progress towards malaria elimination in Khartoum, Northern, River Nile and Red Sea states.

3. Recommendations

To Member States

- Continue routine efficacy monitoring to ensure that recommended ACTs are efficacious, changes in national treatment policies can be implemented in a timely manner, and artemisinin resistance can be detected early.
- Strengthen collaboration on therapeutic efficacy studies between countries in the networks for capacity-building, sharing expertise in enforcing clinical monitoring and quality control of microscopy, and using innovative approaches, such as the use of m-health platforms.
- Continue to strengthen the diagnosis of malaria by testing all suspected malaria cases to have a clear picture of the real burden of the disease.
- Scale up interventions and investment for strengthening malaria surveillance systems, including DHIS2 adoption.
- Strengthen engagement with and regulation of the private sector for scaling up the coverage and quality of malaria case management and improve the reporting system.
- Mobilize resources for advocacy and community mobilization by increasing access to the available materials for scaling up the uptake of malaria interventions.
- Ensure high level advocacy with the Global Fund and other donors to support IVM and vector control interventions.
- Enhance information sharing between countries in the networks, actively participate in global surveillance of disease burden, and drug and insecticide resistance, and provide timely requested data and information, including the data needed for the World Malaria Report.

To WHO

- Continue supporting HANMAT and PIAM-Net activities, and therapeutic efficacy and molecular marker studies.
- Strengthen capacity-building activities on malaria surveillance, planning and case management, and for quality assurance of malaria diagnostics, using the available centres and facilities in the countries of the networks.
- Support countries in resource mobilization for unfunded gaps in their programmes, including technical support for proposal writing and problem solving during implementation of grants, where needed.
- Increase awareness and sensitization to the Global Fund's complex operating environments policy by sharing information and experiences to improve implementation of malaria interventions in emergency settings.
- Ensure effective representation of WHO in countries for malaria and other vector-borne diseases.
- Support the establishment of a network for insecticide-resistance monitoring and continue support for the procurement of testing kits.
- Organize the next meeting of the networks in Khartoum, Sudan, in October/November 2018.



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