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WORLD HEALTH ORGANIZATION
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WHO meeting on progress achieved with malaria elimination in the WHO European Region

Ashgabat, Turkmenistan
30 October – 01 November 2007

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ABSTRACT

The rationale for organizing this meeting was to follow up on the implementation of the Tashkent Declaration "The Move from Malaria Control to Elimination", and to report on achievements and experiences related to malaria elimination accumulated over the past two years. Particular attention was paid to promoting cross-border cooperation among countries and between Regions (the European and Eastern Mediterranean Regions) and to stimulating the flow of additional resources for malaria elimination.

Participants greatly appreciated the efforts made by countries themselves, WHO and partners towards malaria elimination. The reduction in the reported number of malaria cases by almost a fifteen–fold over the past eight years (1999–2006) is the most visible achievement of the regional malaria programme. Bearing in mind the result achieved by 2007, it can be assumed that all countries affected by autochthonous malaria will be able to proceed with malaria elimination as planned, and by 2010 Armenia, Turkmenistan and Tajikistan will ultimately interrupt the transmission of *P. vivax* and *P. falciparum* malaria, respectively.

Participants reaffirmed their commitments to the Tashkent Declaration and to the declared goals and targets of the new regional strategy on malaria, and emphasized the need to ensure that the countries are fully supported in their malaria elimination efforts.

Keywords

MALARIA – prevention and control
PROGRAM DEVELOPMENT
GUIDELINES
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CONTENTS

Page

Executive summary 1

Резюме 3

Acronyms and abbreviations 6

Introduction 7

- Scope and purpose of the meeting 7
- Inaugural session 7
- Organization of the meeting 7

World update on malaria control and elimination 8

Progress towards eliminating malaria in the WHO European Region 9

- Armenia 10
- Azerbaijan 11
- Georgia 11
- Kazakhstan 11
- Kyrgyzstan 12
- Moldova 12
- Russian Federation 13
- Tajikistan 13
- Turkey 14
- Turkmenistan 14
- Uzbekistan 14

Progress towards eliminating malaria in the WHO Eastern Mediterranean Region 15

- Afghanistan 16
- Islamic Republic of Iran 18

Research and strategy development 18

- Malaria elimination: existing strategies, available technologies, challenges and possible scenarios 18
- Elimination of *P. falciparum* from border areas of Tajikistan and Afghanistan: An example of interregional collaboration 19
- An update on the regional research project: *Anopheles* species and vector control in the WHO European Region 20
- An update on the regional research project: Genetic structure of the human malaria parasites in affected countries of the WHO European Region 21
- Developing a national strategy and plan for malaria elimination 22
- Malaria elimination: Monitoring and evaluation 23

Intensifying partnership action 24

- The Global Fund to Fight AIDS, TB and Malaria in Eastern Europe and Central Asia: Malaria overview 24
- Progress with implementation of the Global Fund project in Kyrgyzstan, 2006–2010: Moving from malaria control to elimination 25
- Progress with implementation of the Global Fund project in Georgia, 2004–2012: A good basis for malaria elimination 25

Conclusions 25
Выводы 26
Recommendations 27
Рекомендации 29
Annex 1. Programme 31
Annex 2. List of Participants 34

Executive summary

The meeting took place almost two years following the endorsement of the Tashkent Declaration "The Move from Malaria Control to Elimination", by all malaria-affected countries of the WHO European Region. The new regional strategy with the ultimate goal to interrupt the transmission of malaria by 2015 within the Region, which was agreed by all affected countries in 2006, is being successfully implemented. The reduction in the reported number of malaria cases by almost a fifteen-fold over the past eight years (1999–2006) is the most visible achievement of the regional malaria programme. The rationale for organizing the meeting was to follow up on the implementation of the above-mentioned Declaration and to report on achievements and experience related to malaria elimination accumulated over the past two years. Bearing in mind the result achieved by 2007, it can be assumed that all countries affected by autochthonous malaria will be able to proceed with malaria elimination as planned, and Armenia, Turkmenistan and Tajikistan will ultimately interrupt, by 2010, the transmission of *P. vivax* and *P. falciparum* malaria, respectively.

The meeting was convened (1) to report on achievements and to share experiences on malaria elimination between countries and regions; (2) to review existing practical modalities on dealing with malaria and identify problems encountered in participating countries; (3) to promote cross-border cooperation among countries and between regions (WHO/Europe and WHO/Eastern Mediterranean); (4) to streamline mechanisms for more effective partnership action at interregional, subregional and country levels; and (5) to stimulate the flow of additional resources for malaria elimination. The following countries were represented: Afghanistan, Armenia, Azerbaijan, Georgia, the Islamic Republic of Iran, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkey, Turkmenistan and Uzbekistan; along with WHO staff from WHO headquarters, the Regional Offices for Europe and the Eastern Mediterranean, as well as representatives from GFATM/headquarters, GFATM/Georgia, GFATM/Uzbekistan, GFATM/Kyrgyzstan, GFATM/Azerbaijan, UNDP/Tajikistan and experts from the Martsinovsky Institute of Medical Parasitology and Tropical Medicine/Russian Federation, the Central Institute for Postgraduate Medical Training/Russian Federation, the Vavilov Institute of General Genetics/Russian Federation, MSF/Turkmenistan, Project HOPE/Turkmenistan and the University of Oxford, KEMRI/United Kingdom.

The efforts made by countries, WHO and partners towards eliminating malaria are greatly appreciated, and participants reaffirmed their commitment to the Tashkent Declaration and the declared goals and targets of the new regional strategy on malaria. The strategic guidance and technical assistance provided by WHO were highly acknowledged. Participants emphasized the need to ensure that affected countries are fully supported in their endeavours to go forward with national malaria elimination campaigns. Particular emphasis should be given to situations, where a risk of spread of malaria across shared borders exists. In order to achieve a greater impact on the regional malaria situation, participants underlined the need to intensify partnership actions at interregional, subregional and country levels and urged partners to increase the level of financial assistance for malaria elimination. A shortfall in funding would limit the scope of malaria elimination activities.

It was recommended for Member States: (1) to reaffirm the previous commitments (a) to the regional resolution EUR/RC52/R10 "Scaling up the response to malaria in the European Region of WHO" endorsed by all Member States in September 2002, (b) to the Tashkent Declaration

"The Move from Malaria Control to Elimination" endorsed by all malaria-affected countries of the WHO European Region, 2005, (c) to the Kabul Declaration "Health for All. Health by All: Communicable Diseases Recognize No Borders" endorsed by a number of Member States of the WHO European and Eastern Mediterranean Regions, 2006, and (d) to the statement on progress achieved in malaria control made at the 56th session of the Regional Committee for Europe, September 2006; (2) to continue implementing, monitoring and evaluating malaria elimination programmes in Armenia, Tajikistan and Turkmenistan; (3) to continue assessing the feasibility of malaria elimination, developing national strategies and plans of action for malaria elimination, and agreeing upon goals and targets in the remaining affected countries of the Region; (4) to ensure that all national training programmes and materials are continuously adapted to and appropriate for the implementing strategy, particularly on malaria elimination; (5) to continue the strengthening of epidemiological services and information systems, including an operational research component, capable of adequate planning, implementing and evaluating interventions related to malaria elimination; (6) to streamline mechanisms for more effective partnership action to promote malaria elimination effort among governmental bodies, international agencies, nongovernmental organizations and the private sector by means of coordination committees at national level; and (7) to promote cross-border collaboration and cooperation among neighbouring countries of Region.

It was recommended for WHO (Europe): (1) to continue assisting countries to undertake assessments on issues of direct relevance to the feasibility of malaria elimination and identify country needs; (2) to continue supporting countries in their efforts towards planning, implementing, monitoring and evaluating the national malaria elimination programmes; (3) to develop approaches and mechanisms for certification of malaria elimination at national level; (4) to continue supporting countries in conducting malaria-oriented operational research activities and publishing their results, particularly on issues related to elimination; (5) to assist in the organization of (a) a regional training workshop on vector biology and control, to be held in 2008, (b) a regional training course on malaria elimination, to be held in 2009, (c) cross-border meetings on malaria elimination, to be held in 2008–2009, and (d) a WHO regional meeting of national malaria programme managers, to be held in 2009; and (6) to assist in the mobilization of additional resources for malaria elimination.

It was recommended for WHO (Europe and Eastern Mediterranean): (1) to establish an interregional task force, comprised of representatives from the countries concerned and WHO experts, in order to review the progress made with malaria elimination; (2) to assist in the organization of interregional meetings and study tours to share experiences on malaria elimination between countries and regions; (3) to assist in the development of joint malaria project proposals and implementation of relevant projects for neighbouring countries belonging to the above-mentioned two Regions; (4) to assist in sharing existing malaria-related data, including the outcomes of operational research studies among neighbouring countries, particularly from different WHO Regions; and (5) to continue supporting countries to plan, implement and monitor malaria projects funded by the Global Fund to Fight AIDS, Tuberculosis & Malaria (GFATM).

It was recommended for partners (including GFATM): (1) to promote malaria elimination efforts within the Region by supporting (a) countries in implementing ongoing anti-malaria projects funded by partners, and (b) countries in developing project proposals aimed at malaria elimination, where such projects are not yet in place; (2) to support the development of intercountry project proposals on malaria elimination; and (3) to assist in the organization of

joint meetings and exchange visits of qualified country-level malaria personnel between countries.

Резюме

Данное совещание проводилось почти два года спустя после ратификации Ташкентской Декларации «Вперед от борьбы к элиминации малярии» всеми странами Европейского региона, столкнувшимися с возвратом малярии. Новая региональная стратегия с её конечной целью – перерывом передачи малярии к 2015 году, которая была одобрена всеми пораженными странами в 2006 году, в настоящее время успешно воплощается в жизнь. Снижение зарегистрированных случаев малярии почти в пятнадцать раз, имевшее место на протяжении последних восьми лет (1999–2006 гг.) в Регионе, является значительным достижением региональной противомалярийной программы. Обоснованием для проведения данного совещания послужила необходимость оценки прогресса, достигнутого в процессе выполнения Ташкентской декларации, а также возможность показать успехи и обменяться опытом, накопленным за последние два года, по осуществлению программ по элиминации малярии. Учитывая результаты, достигнутые к 2007 году, можно предположить, что все страны Региона, где продолжает регистрироваться местная передача малярии, будут в состоянии обеспечить проведение национальных программ по элиминации малярии, как планировалось ранее, и к 2010 году, передача трехдневной и тропической малярии будет прервана в Армении, Туркменистане и Таджикистане, соответственно.

Целями вышеуказанного совещания являлись: (1) показать успехи и обменяться опытом между странами и регионами по осуществлению программ ОВМ; (2) сделать обзор имеющихся практических подходов к борьбе с малярией, и показать проблемы, возникающие в процессе реализации данных программ; (3) улучшить сотрудничество между странами и регионами (Европейское и Восточно-Средиземноморское бюро); (4) оптимизировать механизмы для более эффективного партнерского сотрудничества на межрегиональном, субрегиональном и национальном уровнях, а также (5) стимулировать приток дополнительных ресурсов на элиминацию малярии. На совещании присутствовали представители Афганистана, Азербайджана, Грузии, Ирана, Казахстана, Кыргызстана, Молдова, Российской Федерации, Таджикистана, Туркменистана, Турции и Узбекистана. Всемирная организация здравоохранения была представлена персоналом из штаб-квартиры, Европейского и Восточно-Средиземноморского бюро. Представители и эксперты из Глобального фонда по борьбе с СПИДом, туберкулезом и малярией (штаб-квартира, Грузия, Кыргызстан, Узбекистан, Азербайджан), UNDP (Таджикистан), Института медицинской паразитологии и тропической медицины им. Марциновского (Российская Федерация), Центрального института постдипломного медицинского образования (Российская Федерация), Института общей генетики им. Вавилова (Российская Федерация), MSF (Туркменистан), проект HOPE (Туркменистан) и Университета Оксфорда, KEMRI (Англия) присутствовали на совещании.

Все усилия предпринимаемые странами, ВОЗ и партнерами по проведению программ по элиминации малярии были отмечены с большим удовлетворением, и участники подтвердили еще раз обязательства, взятые в отношении Ташкентской декларации, и задач и целей новой региональной стратегии по малярии. Стратегическое руководство и техническая поддержка со стороны ВОЗ были оценены с благодарностью. Участники совещания также подчеркнули необходимость гарантировать, чтобы все страны,

пораженные малярией, были полностью поддержаны в их усилиях по проведению национальных кампаний по элиминации малярии. Особое внимание должно быть уделено ситуациям, где существует риск распространения малярии между прилегающими пограничными территориями соседних стран. Для достижения ещё больших результатов, участники подчеркнули необходимость усилить партнерское сотрудничество на межрегиональном, субрегиональном и национальном уровнях, и просили партнеров увеличить размер финансовой помощи для проведения программ по элиминации малярии. Было подчеркнуто, что недостаток финансов может ограничить объем мероприятий, направленных на элиминацию малярии в Регионе.

Следующие положения были рекомендованы для стран-участников: (1) Оставить за собой прежние обязательства в области малярии, изложенные (а) в региональной резолюции EUR/RC52/R10 «Усилим противомалярийную деятельность в Европейском регионе ВОЗ», принятой в сентябре 2002 года; (б) в Ташкентской декларации «Вперед от борьбы к элиминации малярии», одобренной всеми пораженными странами Европейского региона ВОЗ, 2006; (в) в Кабульской декларации «Инфекционные болезни не распознают границ», принятой рядом стран Европейского и Восточно-Средиземноморского регионов ВОЗ, 2006 г.; и (г) в докладе о прогрессе, достигнутом в деле борьбы с малярией, сделанном на 56-ой сессии Регионального комитета для Европы в сентябре 2006 года; (2) продолжить проведение программ по элиминации малярии и осуществление их мониторинга и оценки в Армении, Туркменистане и Таджикистане; (3) продолжить оценку возможности элиминации малярии на уровне стран, а также разработку национальных стратегий и планов по элиминации малярии и согласования их целей и задач в остальных пораженных странах Региона; (4) обеспечить, чтобы все национальные программы обучения и учебные материалы постоянно адаптировались и соответствовали потребностям реализуемой стратегии, в частности направленной на элиминацию малярии; (5) продолжить укрепление эпидемиологических служб и информационных систем, включая научно-исследовательский компонент, для обеспечения адекватного планирования, проведения и оценки мероприятий, связанных с элиминацией малярии; (6)оптимизировать механизмы для более эффективного партнерского сотрудничества в деле элиминации малярии среди государственных структур, международных агентств, негосударственных организаций и частного сектора через национальные координационные комитеты на национальном уровне; и (7) улучшить взаимодействие и координацию в проведении противомалярийных программ между странами Региона;

Следующие положения были рекомендованы для ВОЗ (Европейское Региональное бюро): (1) продолжить оказание помощи в проведение оценочных исследований, направленных на изучение возможности элиминации малярии в той или иной стране и определить потребности, необходимые странам для проведения данных программ; (2) продолжить оказание помощи странам в их усилиях по планированию, проведению, мониторингу и оценке национальных программ по элиминации малярии; (3) разработать подходы и механизмы для сертификации элиминации малярии на национальном уровне; (4) продолжить оказание помощи в проведении научно-практических исследований по малярии и публикации их результатов, в частности в области элиминации малярии; (5) оказать помощь в организации: (а) регионального обучающего курса по биологии и борьбы с переносчиками малярии, который будет проведен в 2008 году; (б) регионального обучающего курса по элиминации малярии, который будет проведен в 2009 г.; (в) организации трансграничных совещаний по элиминации малярии, которые будут поведены в 2008–2009 годах; и (г) регионального совещания ВОЗ для стран, пораженных

малярией, который будет проведен в 2009 году; и (6) оказать помощь в мобилизации дополнительных ресурсов для элиминации малярии.

Следующие положения были рекомендованы для ВОЗ (Европейское региональное бюро и Восточно-Средиземноморское бюро): (1) создать межрегиональную группу, включающую представителей всех заинтересованных стран и экспертов ВОЗ для оценки результатов проведенной работы в области элиминации малярии; (2) оказать помощь в организации межрегиональных совещаний и обмена специалистами с целью обмена опытом в области элиминации малярии между вышеупомянутыми регионами и странами; (3) продолжить оказание помощи в подготовке совместных проектов по малярии, а также в их осуществлении в пограничных странах вышеупомянутых регионов; (4) оказать помощь в обмене существующей информацией о малярии включая результаты научно-практических исследований между пограничными странами, в особенности из разных регионов ВОЗ; и (5) продолжить оказание помощи в планировании, проведении и мониторинге проектов малярии, осуществляемых в рамках Глобального фонда.

Следующие положения были рекомендованы для партнеров (включая Глобальной фонд): (1) для успешного проведения программы по элиминации малярии в Регионе: (а) продолжить оказание помощи странам, получившим поддержку от партнеров в проведении данных проектов; и (б) оказать помощь странам, не получившим до настоящего времени поддержку от партнеров, в подготовке национальных проектов, направленных на элиминацию малярии; (2) поддержать разработку национальных и межстрановых проектов по элиминации малярии; и (3) поддержать организацию совместных совещаний и обмен квалифицированными специалистами противомалярийных программ между странами.

Acronyms and abbreviations

ACT	Artemisinin-based combination therapy
ACTED	Agency for Technical Cooperation and Development
AIDS	Acquired Immunodeficiency Syndrome
GAVI	Global Alliance for Vaccines and Immunization
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GMP	Global Malaria Programme (WHO)
IFRC	International Federation of the Red Cross and Red Crescent Societies
IVM	In vitro maturation
LLINs	Long lasting insecticidal nets
MAP	Malaria atlas project
PCR	Polymerase chain reaction
Project HOPE	Health Opportunities for People Everywhere
RNA	Ribonucleic acid
TB	Tuberculosis
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WB	World Bank
WFP	World Food Programme

Introduction

The WHO Meeting on progress achieved with Malaria Elimination in the WHO European Region, organized by the WHO Regional Office for Europe, in collaboration with the Government of Turkmenistan, was held in Ashgabat, Turkmenistan from 30 October to 1 November 2007. Officials (see annex 2) from Afghanistan, Azerbaijan, Georgia, the Islamic Republic of Iran, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Turkey, Uzbekistan as well as WHO staff, experts and partners attended the meeting.

Scope and purpose of the meeting

The objectives of the meeting were:

- to report on achievements and to share experiences on malaria elimination among countries and between Regions (WHO European and Eastern Mediterranean Regions);
- to review existing practical modalities on dealing with malaria and identify problems encountered in participating countries;
- to streamline mechanisms for more effective partnership action at interregional, subregional and country levels;
- to promote cross-border cooperation among countries and between Regions (WHO European and Eastern Mediterranean Regions); and
- to stimulate the flow of additional resources for malaria elimination.

Inaugural session

The meeting was inaugurated by Dr Ata Serdarov, Minister of Health of Turkmenistan, who emphasized the results achieved in fighting malaria in the country and the need for better cross–border collaboration in the field of malaria elimination and prevention. Dr Serdarov also expressed his appreciation to WHO for sponsoring the meeting. Dr Aafje Rietveld, Global Malaria Programme, WHO headquarters, welcomed all participants and stressed that the meeting represents a unique opportunity for participating countries and partners to gather together in order to discuss progress with malaria elimination and exchange opinions on this matter. Dr Gérard Schmets, Director a.i., Division of Country Health Systems, speaking on behalf of Dr Marc Danzon, Regional Director for the WHO Regional Office for Europe, mentioned that this meeting was taking place almost two years following the endorsement of the Tashkent Declaration and its successful implementation and that the ultimate goal of the new regional strategy is to interrupt the transmission of malaria by 2015 and eliminate the disease in the Region.

Organization of the meeting

The first day of the three–day meeting was devoted to a world update on malaria control and elimination, to progress towards eliminating malaria in the WHO European and Eastern Mediterranean Regions, as well as to progress with and challenges towards eliminating malaria at country level. On the second day, scientific presentations were made on existing malaria elimination strategies, available technologies and possible scenarios; elimination of *P. falciparum* malaria from areas of Tajikistan and Afghanistan; *Anopheles* species and vector

control in the WHO European Region; genetic structure of the human malaria parasites in affected countries of the WHO European Region; development of a national strategy and plan for malaria elimination; malaria elimination: monitoring and evaluation; and mapping of the present extent of malaria in the WHO European and Eastern-Mediterranean Regions. Issues related to progress with implementation of the Global Fund malaria project in Kyrgyzstan, 2006–2010: Moving from malaria control to elimination (GFATM/Kyrgyzstan) and of the Global Fund malaria projects in Georgia, 2004–2011: A good basis for malaria elimination (GFATM/Georgia) were presented and discussed. Subsequently, three groups were formed to discuss the next steps for malaria elimination and cross-border cooperation in countries of the Trans-Caucasian Region, Turkey and Iran (Group 1) and in countries of Central Asia and Afghanistan (Group 2). The third group finalized a cross-border project on *P. falciparum* malaria elimination between Afghanistan and Tajikistan. The working groups discussed the assigned subjects in depth and formulated recommendations. On the third day, the group work continued and finally the conclusions and recommendations were presented and formally adopted in a plenary session.

Dr Ata Serdarov, Minister of Health, Turkmenistan, was elected as Chairman of the meeting. Professor Nikoloz Pruidze, Deputy Minister of Health, Georgia and Dr Annamurad Orazov, Deputy Minister of Health, Turkmenistan were elected as Co–Chairmen. Dr Nurbolot Usenbaev, Manager, Malaria Project funded by GFATM, Ministry of Health, Kyrgyzstan, was elected to serve as Rapporteur.

World update on malaria control and elimination

Today, malaria continues to cause a high disease and economic burden in tropical and subtropical areas of the world, affecting over 100 countries. An estimated 3 billion people live in areas at risk. The disease causes over 500 million cases and 1 million deaths annually. 90% of these deaths and 60% of cases occur in Africa south of the Sahara, where *P. falciparum* is the main parasite species. National expenditures for malaria in 2007 have been estimated at USD 300 million; external assistance at USD 0.5 billion. The annual economic cost of malaria in Africa is estimated at USD 12 billion. The aims of the global fight against malaria are (1) to reduce the burden of malaria in endemic areas, and (2) to reduce and confine the geographical extent of endemic areas in the world by eliminating malaria from countries and localities where this is feasible. The 2000 Abuja declaration to halve the malaria mortality for Africa's people by 2010 and the UN Millennium Development Goals for 2015 set ambitious targets for the global fight against malaria.

With available new tools (artemisinin-based combination therapy, long-lasting insecticidal nets, rapid diagnostic tests), and more visibility, more political support and more funds for malaria control, some clear successes are being achieved, especially at the edges of the malarious areas of the world including the European region. Major malaria problems continue to exist in many African countries, parts of Asia and the Amazon Basin. In 2007, the United Arab Emirates was the first formerly endemic country since the 1980s to be certified by WHO as malaria free. Among the 25 countries that are currently implementing malaria (pre-) elimination programmes, seven are now reporting zero locally acquired cases. The progress in recent years has prompted a call to move towards a "Malaria Free World".

Progress towards eliminating malaria in the WHO European Region

From 1999–2006, the reported number of malaria cases declined from 90 712 to 2521, and it is expected there would be less autochthonous malaria in the Region in 2007. At present, autochthonous malaria continued to pose a challenge in 6 out of the 52 Member States of the Region, namely Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkey and Uzbekistan. The incidence of malaria in all affected countries has been brought down to such levels that interruption of transmission of *P. falciparum* and *P. vivax* malaria has become a feasible objective. Taking into account the results achieved by 2007, it can be assumed that *P. vivax* malaria would be eliminated in Armenia and Turkmenistan by 2010, and transmission of *P. falciparum* malaria could be interrupted in Tajikistan and the country would be free from *P. falciparum* malaria by 2010. Interrupting malaria transmission by 2015 and eliminating the disease within all affected countries of the Region is the ultimate goal of the new regional strategy. In areas and countries where malaria had been eliminated, attention is given to maintaining the malaria-free status. Particular emphasis is also placed on tackling the growing problem associated with imported malaria.

All malaria-affected countries of the Region endorsed the Tashkent Declaration "The Move from Malaria Control to Elimination, 2005", which has supported and facilitated their decisions to undertake the new elimination effort. It is worth noting that the following factors should be taken into consideration while moving forward with national malaria elimination campaigns:

- demonstrated technical feasibility of malaria elimination in a similar eco-epidemiological setting in the recent past: the malaria elimination successes in Europe have demonstrated that large-scale application of intensive vector control measures (mainly based on indoor residual spraying with insecticides) combined with adequate coverage and quality of disease management and surveillance activities could bring the transmission of malaria down sharply and even completely in areas with a relatively low intensity of transmission;
- visible and substantial impact of antimalaria interventions at present;
- strong political commitment substantiated by a dedicated sustained budget at national level, in order to achieve a greater impact on the malaria situation, and finally to interrupt malaria transmission and eliminate the disease from the country;
- well-established regional/subregional cooperation in the field of malaria control and elimination;
- proven efficacious technologies and tools to eliminate malaria in a given eco-epidemiological setting; and
- strong and continued intersectoral collaboration at country level.

Malaria-affected countries of the Region have set their elimination targets taking into account (1) parasite species approach: experience shows that elimination of *P. vivax* transmission is more difficult than elimination of *P. falciparum* transmission – Tajikistan, and (2) geographical area approach: most countries approach elimination in stages, with different parts of the country being at different programme stages simultaneously – Tajikistan, Kyrgyzstan, Uzbekistan, Azerbaijan

Even in the most ideal operational environments, a minimum period of 8–10 years is required per programme zone to achieve elimination. In less ideal circumstances, it will take considerably

longer. The duration of the programmes will be determined by the epidemiological effect of the measures applied. Programme phases should be planned with sufficient flexibility in the budget. The programme for prevention of reintroduction of transmission has an unlimited duration.

When a country has had locally acquired malaria cases for at least three consecutive years, it can request WHO to certify its malaria-free status.

The main obstacle for elimination programmes is their cost, which is usually much higher than the resources available. To attract and sustain the donor interest in malaria elimination, new possibilities and approaches for additional resource mobilization should be widely explored at global, regional and national levels. In the context of malaria elimination, particular emphasis should be given to situations, where there is a risk of spread of malaria between neighbouring countries.

In order to eliminate *P. falciparum* malaria from Tajikistan and northern Afghanistan, the WHO Regional Offices for Europe and Eastern Mediterranean have developed a cross-border project proposal. The issue of coordination of cross-border antimalaria activities between neighbouring countries of the above-mentioned Regions will be discussed during an interregional meeting to be held in Turkey in 2008.

Elimination of malaria will help realizing the wide future expectations in terms of industry, trade and tourism in countries presently affected by malaria. The success of malaria elimination will contribute to strengthening the health system, namely improving coverage and quality of primary health care, laboratory services, quality assurance and disease surveillance.

Armenia

In Armenia the malaria situation began to deteriorate in 1994, and, by 1998, 1156 cases of malaria were reported in the country. Over 89% of these cases were detected in the Ararat and Armavir districts of the Ararat valley. In recent years, owing to epidemic control interventions, the number of autochthonous malaria cases has continued to decrease, dropping to 3 in 2005. Since 2006, *P. vivax* cases due to local transmission have been not reported in the country.

Despite the fact that transmission of *P. vivax* malaria has been interrupted, the epidemiological and entomological situation must be monitored closely, due to the existence of favourable conditions for resumption of malaria transmission. *Anopheles maculipennis* serves as the main malaria vector in the country. In addition to *A. maculipennis*, other malaria vectors in the country include *A. sacharovi*, *A. hyrcanus*, *A. plumbeus* and *A. claviger*. The appearance of *A. sacharovi* (the main vector in Transcaucasia) in the Ararat valley has created conditions more favourable for malaria transmission in the country.

Armenia demonstrates a strong political commitment to the Tashkent Declaration “The Move from Malaria Control to Elimination” that was endorsed by the country in 2005. During the past years antimalaria interventions were supported by the Ministry of Health, other governmental entities, the WHO Regional Office for Europe, UNICEF, the International Federation of Red Cross and Red Crescent Societies (IFRC), United Nations Development Programme (UNDP), World Bank (WB), the World Food Programme (WFP) and the Governments of Italy and Norway. In 2006, Armenia developed a national malaria elimination strategy, bearing in mind the results achieved to date and the goal to eliminate *P. vivax* malaria by 2010. At present, activities supported by the Government itself and WHO are directed at preventing the re-

introduction of malaria transmission (to detect any possible continuation/resumption of malaria transmission and to notify early on all suspected and confirmed cases).

Azerbaijan

In Azerbaijan the malaria situation began to deteriorate rapidly after 1990, and in 1996, the number of malaria cases reached 13 135, with the majority of cases registered in the districts of the Kura–Araksin and Lenkoran lowlands, areas which were highly affected by malaria in the past. Over the course of 1997–2006, as a result of large–scale epidemic control interventions, the malaria situation in the country continued to improve, however, with only 143 cases reported in 2006. Malaria vectors in Azerbaijan comprise *A. maculipennis* (the area of the Big and Small Caucasus), *A. sacharovi* (Kura–Araksin and Lenkoran lowlands) and *A. persiensis* (Lenkoran lowland, in areas bordering Iran).

Azerbaijan demonstrates a strong political commitment to the Tashkent Declaration "The Move from Malaria Control to Elimination", which was endorsed by the country in 2005. At present, antimalaria activities supported by the Government itself and WHO focus mainly on vector control measures, disease management, training, operational research, surveillance and public health education. A National Malaria Elimination Strategy for 2008–2013 is presently being developed with assistance provided by WHO Regional Office for Europe, and it will be finalized at the beginning of 2008.

Georgia

In Georgia the malaria situation began to deteriorate in the mid 1990s, reaching 473 in 2002. In 2006, as a result of intensive antimalaria measures being applied, the country reported only 58 autochthonous cases from areas bordering Azerbaijan. At present, the highest risk of resurgence of malaria transmission and its spread concern the areas bordering Azerbaijan and Armenia in eastern Georgia, the Black Sea coastal areas, and the Kolhid lowlands in the western part of the country, where almost 70% of the total population reside, and where the transmission season may last more than 150 days. The main and secondary vectors there include *A. maculipennis*, *A. superpictus*, *A. sacharovi*, *A. atroparvus*, *A. hyrcanus*, *A. claviger* and *A. melanoon*.

Political commitment to the principles of the Tashkent Declaration "The Move from Malaria Control to Elimination" endorsed in 2005 continues to grow in Georgia. At present, the country-level malaria elimination initiative is supported by the Ministry of Health, the WHO Regional Office for Europe and the Global Fund. The Global Fund has provided Georgia with two grants of more than US$ 4 000 000 to support the country's national response to malaria over eight years (2004–2011). Interventions carried out include disease management and prevention, training, surveillance, epidemic control, community mobilization, health education and operational research. At present, a national malaria elimination strategy with the goal of eliminating *P. vivax* malaria by 2013 is being developed, and is to be approved in February–March 2008.

Kazakhstan

In Kazakhstan the last two cases of autochthonous malaria were reported in 2001, and only imported malaria (56 cases) was registered during 2002–2006. The differences in types of landscape, vector species distribution, and occupational and migration population patterns define

the heterogeneity of malariogenic potential within the country. The ecological and climatic conditions in most regions could lead to a resurgence of malaria transmission following its importation, which has increased in recent years.

Over the past five years, the Ministry of Health of Kazakhstan has issued a number of national decrees and developed national guidelines, which are aimed at strengthening malaria preventive measures, and steps are being taken to reinforce malaria surveillance. The national malaria prevention programme, 2008–2010 has been developed taking into account the principles of the new WHO regional strategy on malaria. Kazakhstan demonstrates a strong political commitment to the Tashkent Declaration "The Move from Malaria Control to Elimination", which was endorsed in 2005. At present, malaria-related activities include notification of all suspected and confirmed cases, strengthening surveillance, detection of any possible re-establishment of malaria transmission, application of rapid curative and preventive measures, upgrading laboratory services, conducting malaria-related training and operational research. The Government itself and WHO Regional Office for Europe provide support for this.

Kyrgyzstan

In 2002, the explosive resumption of malaria transmission produced an epidemic situation in Kyrgyzstan, and a total of 2267 autochthonous *P. vivax* cases were reported in the south-western regions of the country. As a result of the application of large-scale epidemic control measures, there was a significant decrease in the reported number of autochthonous malaria cases, and in 2006 only 135 cases of *P. vivax* malaria were reported in the southern part of the country. However, the problem of malaria resurfaced again in the northern part of the country starting from 2005, and 185 cases of *P. vivax* malaria were revealed in Bishkek and its outskirts in 2006. In the same year an outbreak of malaria was registered in the town of Tas-Komur. In 2007 (as on 30 October) 74 cases of autochthonous malaria were reported in the country with only 16 cases coming from the south-western regions of the country. Malaria vectors in the country include *A. pulcherimus*, *A. superpictus*, *A. hyrcanus*, *A. martinius*, *A. claviger*, *A. messeae* and probably *A. martinius*.

Kyrgyzstan shows a strong political commitment to the Tashkent Declaration "The Move from Malaria control to Elimination" endorsed in 2005. The national malaria programme, 2006–2010, which is being successfully implemented, was revised in 2005 to reflect the new malaria situation. During 2006–2010, Kyrgyzstan received assistance within the framework of a malaria project funded by the GFATM and executed by the Ministry of Health with technical assistance provided by WHO Regional Office for Europe. In order to maintain the results achieved and move further towards malaria elimination, cross-border collaboration should be strengthened among neighbouring countries (Kyrgyzstan, Tajikistan and Uzbekistan). In the years to come, particular emphasis should be given to promoting and facilitating national efforts to eliminate *P. vivax* malaria within the entire territory of Kyrgyzstan, the Fergana valley in Uzbekistan and the northern part of Tajikistan.

Moldova

Since 1960 autochthonous malaria cases have not been registered in the country, except for four secondary cases of *P. vivax* malaria. Between 1960 and 2007, 784 imported cases of malaria were reported in the country, 59% of which were due to *P. falciparum* malaria. In view of the importation of malaria and the availability of malaria vectors in the country, it is important to

pay special attention to the epidemiological surveillance of all imported cases, in order to prevent the re-establishment of malaria transmission and occurrence of autochthonous cases of malaria, and to prevent severe and complicated imported cases of *P. falciparum* malaria and consequent deaths as well.

Russian Federation

Between 2001 and 2006 the number of imported and autochthonous cases of malaria continued to drop, from 898 to 143, respectively. All these cases were reported in 38 administrative territories of the Russian Federation in 2006. There were only 11 cases of *P. vivax* malaria due to local transmission in the Russian Federation in 2006, and they were registered in Moscow City (3), Moscow Region (4), Kemerovo Oblast (2), Lipetsk Oblast (1) and the Republic of Tatarstan (1). Over the past years, *P. vivax* has been the predominant species in the imported malaria, and exclusively *P. vivax* malaria was transmitted in the country. The highest number of imported cases was recorded in Moscow (45), Moscow Oblast (17), and St Petersburg (16). In view of the continuing importation of malaria, it is crucial to pay special attention to epidemiological surveillance of all imported and autochthonous cases. In order to cope with the problem of malaria, a decree related to intensification of measures to curb the spread of malaria within the country has been issued. The Tashkent Declaration "The Move from Malaria Control to Elimination" was endorsed by the Russian Federation in 2007.

Tajikistan

A total of 1344 cases of malaria including 28 cases of *P. falciparum* were reported in the country in 2006, and only 533 cases, including 4 due to *P. falciparum*, were reported during January–October 2007. The majority of cases were reported in the Khatlon Region and the RRS (Vakhdat, Rudaki, Gissar, Shakhrinav and Tursun-zade districts). The incidence of malaria decreased substantially in the southern part of the Sogd region and the northern part of RRS. During last two years no cases of autochthonous malaria have been reported in the eastern part of the RRS, GBAO (except Darvaz, Vanch, Rushan) and the remaining districts of the Sogd region. Malaria vectors in Tajikistan include *A. superpictus*, *A. pulcherimus*, *A. maculipennis*, *A. hyrcanus* and *A. martinius*.

Tajikistan traditionally shows a strong political commitment to the Tashkent Declaration "The Move from Malaria Control to Elimination", and national authorities work closely with the WHO Regional Office for Europe in the field of malaria control and elimination. Antimalaria activities are carried out by the Ministry of Health in cooperation with WHO. In 2005 the WHO Regional Office for Europe assisted Tajikistan in drawing up a malaria project proposal, which was submitted to the Global Fund, and subsequently a grant of USD 5 383 510 to support country-level malaria control activities over five years (2006–2010) was approved and is being implemented by the Ministry of Health with technical assistance provided by WHO. Tajikistan revised the national strategy on malaria (2006–2010) with the goal of eliminating *P. falciparum* malaria by 2010. In order to maintain the results achieved and move further towards malaria elimination, cross-border collaboration should be strengthened among neighbouring countries. In the years to come, particular emphasis should be given to promoting and facilitating national efforts to eliminate *P. falciparum* malaria within the entire territory of Tajikistan and the northern part of Afghanistan.

Turkey

Despite the significant decrease in malaria morbidity over the past years, still more than 6 million people reside in the south–eastern part of the country where malaria remains endemic, and a relatively large proportion of the total population live in areas where the risk of a resumption of malaria transmission, leading to outbreak situation, remains high. In 2006, a total of 589 cases of autochthonous malaria were reported over the entire territory of the country. There are thirteen *Anopheles* species recorded in Turkey. *A. sacharovi* and *A. superpictus* are the principal malaria vectors, while *A. maculipennis*, *A. pulcherimus*, *A. algeriensis*, *A. claviger*, *A. hyrcanus*, *A. marteri*, *A. multicolour*, *A. plumbeus* and *A. sergenti* may be considered secondary or possible vectors of malaria in the country.

Turkey demonstrates a strong political commitment to the Tashkent Declaration "The Move from Malaria Control to Elimination", which was endorsed in 2005, and malaria surveillance activities have been intensified all over the country with priority being given to provinces in south-eastern Anatolia. All active foci of malaria are determined, and disease management and prevention activities supported by the Ministry of Health, other governmental entities and the WHO Regional Office for Europe are presently being carried out. A national malaria elimination strategy and relevant plan of action is to be developed in 2008.

Turkmenistan

By 1998, the malaria situation had taken a drastic turn for the worse and 108 malaria cases were detected within the Maryi veloyat. The epidemic control interventions applied to prevent further spread of malaria have allowed for a significant decrease in malaria morbidity within the focus area. Sporadic cases of autochthonous malaria are reported every year, and 48 cases of local malaria cases were registered in the country during 2000–2005. Starting from 2006 no cases of autochthonous malaria have been reported in the country. Three principal malaria vectors are found in Turkmenistan: *A. superpictus*, *A. pulcherimus* and *A. maculipennis*.

Turkmenistan shows a strong political commitment to the Tashkent Declaration "The Move from Malaria control to Elimination" endorsed in 2005. The national malaria programme and action plan were revised in 2007 to reflect the new malaria elimination situation and are being successfully implemented. At present, malaria elimination activities include disease prevention, training, surveillance, operational research and community education. The Government itself and WHO provide support for promoting and facilitating national malaria elimination efforts.

Uzbekistan

In 2005–2007, 224 malaria cases were registered, 140 of which were due to local transmission. During the last three years the number of cases due to local transmission has been on the decline: 64 in 2005, 60 in 2006, and 16 in January–September 2007. Almost all reported cases (72.8%) occurred in the Surkhandarinskaya region which borders Tajikistan and Afghanistan. The

territory of the country can be subdivided into three elimination strata: (1) areas in the maintenance phase: the north-western part of the country; (2) areas in the consolidation phase: all regions bordering Tajikistan except the Surkhandarinskaya region; and (3) areas in the attack phase: the Surkhandarinskaya region. There are seven *Anopheles* species registered within the territory of Uzbekistan: *A. pulcherimus*, *A. superpictus*, *A. maculipennis*, *A. hyrcanus*, *A. martinius*, *A. claviger*, and *A. algeriensis*.

Uzbekistan demonstrates a strong political commitment to the Tashkent Declaration "The Move from Malaria Control to Elimination" endorsed in 2005. At present, antimalaria activities are supported by the Ministry of Health, the WHO Regional Office for Europe, ACTED and the GFATM. With a Global Fund grant of more than USD 2.5 million over five years (2004–2008), disease management and prevention, malaria surveillance, training of general and specialized health personnel, operational research and health education are being strengthened in the country. In 2008–2009, Uzbekistan is to revise the existing national strategy on malaria with the goal of eliminating *P. vivax* malaria by 2015.

Progress towards eliminating malaria in the WHO Eastern Mediterranean Region

Member States of this Region are classified into 3 groups in relation to the epidemiological situation of malaria. Group 1 includes 13 countries which have eliminated malaria in North Africa (Egypt, Tunisia, Morocco, Libyan Arab Jamahiriya),the Gulf area (Bahrain, Qatar, Kuwait, United Arab Emirates, Oman), and the Middle-East (Lebanon, Syria, Palestine and Jordan). Group 2 comprises the countries with low, focused transmission, which are targeting elimination (Iran, Iraq and Saudi Arabia). Group 3, which covers about 69% of this Region's population, includes 6 countries with moderate to high malaria transmission (Afghanistan, Pakistan, Sudan, Somalia, Djibouti, and Yemen).

Reported cases of malaria in the Eastern Mediterranean region were 3.6 million in 2006; however, estimated cases were 10.5 million. Since 1997, the regional strategy supported malaria elimination wherever feasible. The following intercountry activities were conducted to strengthen the countries' capacity to implement elimination programmes:

- 1997: Coordination meeting on malaria elimination for north African countries; Tunisia;
- 2002: Informal consultation on elimination of residual malaria foci and prevention of reintroduction of malaria; Morocco;
- 2007: Regional workshop on malaria elimination and malaria free initiatives; United Arab Emirates.

The WHO Regional Office for the Eastern Mediterranean has published 3 documents on elimination in 2007: (1) Elimination of residual foci, (2) Prevention of malaria reintroduction and (3) Morocco experience on malaria elimination. The latter was documented to demonstrate the sequential species elimination, where *P. falciparum* malaria was eliminated from Morocco in 1975, and later, in 1999, an elimination strategy for *P.* vivax was developed.

The Regional Office together with the WHO Global Malaria Programme (GMP) and the Ministry of Health of the United Arab Emirates updated the strategy for certification of malaria elimination, and the process was implemented in the United Arab Emirates which was certified

as a malaria-free country in January 2007. Saudi Arabia is currently implementing successfully the malaria elimination programme and only 269 local cases were reported in 2006 compared to 4736 in 2000. In Iraq only 23 cases were reported in 2006 compared to 1860 in 2000. Both countries are targeting malaria elimination by 2010.

The Roll Back Malaria Regional Strategic Plan, 2006–2010 supports the expansion of malaria free areas and malaria elimination, wherever feasible through the following approaches:

- assessment of the feasibility of elimination
- development of country strategy and action plan
- support to countries in implementation/evaluation of elimination programmes
- certification of malaria elimination
- support to cross-border coordination and interregional cooperation
- capacity building and technical guidelines
- advocacy and resource mobilization
- certification/validation of malaria elimination.

The Regional Office has adopted a phased approach to elimination in countries with moderate/high transmission, which target elimination at subnational level. These projects are being supported in Sudan in 4 states, entitled "Sudan Central Zone Malaria Free Initiative" in collaboration with the Islamic Development Bank. New projects are planned for 2008–2012, namely "*P. falciparum* elimination in Afghanistan and border areas of Tajikistan", and "Malaria-free Punjab in Pakistan" as well.

The Roll Back Malaria programme of the Eastern Mediterranean Region will continue to support the following activities in 2008–2009:

- cross-border and interregional coordination activities with the European Region and other regions;
- develop training modules and a regional course on malaria elimination in collaboration with the European Region;
- resource mobilization and implementation of the joint border project on *P. falciparum* elimination in Tajikistan and Afghanistan in collaboration with the European Region

Afghanistan

Afghanistan is the 4th most malarious country outside of Africa and the second most malarious country in the WHO Eastern Mediterranean Region. *P. vivax* is dominating in the country. The current nationally recommended drug for uncomplicated *P. falciparum* malaria is a combination of artsunate-sulfadoxine-pyrimethamine and for *P. vivax* malaria it is chloroquine. Clinical malaria is treated with chloroquine and fansidar. In Health Posts and Basic Health Centres laboratory facilities are not available and patients are treated based on clinical features.

Major determinants of malaria transmission in Afghanistan are altitude and agricultural practices (rice cultivation). Based on that the country has been divided into three strata: Strata I with medium to high transmission, Strata II with low to medium transmission, and Strata III which has less potential for malaria transmission.

Major achievements, since 2002, for malaria control in Afghanistan are listed as follows:

- coverage of health care system increased from 35% to 82% of the population;
- following policies and guidelines are formulated:
  - national strategic plan 2006–2010
  - national treatment protocol (adopting ACT for confirmed *P. falciparum*)
  - epidemic preparedness and response
  - training manual of malaria microscopy for lab technicians
  - diagnosis and treatment of severe complicated malaria
  - treatment guideline for community health workers
  - national IVM strategic plan
  - addition of malaria into school curriculum
- establishment of 14 quality assurance centres;
- improvement in the reporting system:
  - 980 health facilities report malaria cases
  - 8000 health posts (16 000 Community Health Workers)
  - piloting the Global Malaria Database in three provinces and plans to expand it to cover the entire country
- intensive training on diagnosis, treatment and prevention of malaria has been conducted for health care providers from both public and private sectors;
- GFATM (Round 5) approved 2.1 million LLINs over 5 years;
- in current year more than 400,000 LLINs distributed in target provinces;
- construction of a new building for a headquarter of the programme and a research and training institute;
- vector surveillance: entomology unit has been established in NMLCP;
- regular monitoring of antimalarial drugs since 2003.

Main challenges for the programme are as follow: (1) insecurity; (2) scarcity of resources both human and financial; (3) lack of motivation; (4) fragmented health care system; (5) poor coordination among stakeholders; (6) gratuitous interference; (7) time-consuming bureaucratic channels; (8) geographical, economical and cultural barriers affecting easy access to facilities with laboratory services; (9) absence of laboratory facilities in Health Post and Basic Health Centres; (10) on average 1.5 laboratories/district to provide a multitude of tests, including malaria; (11) unregulated private sector; (12) wide practice of self medication, and (13) sustainability of the programme.

The future of malaria control is promising, however, due to the following reasons:

- financial support exists from the GFATM (Round 5). It is planned to apply for the next round;
- strong political commitment exists for malaria control in Afghanistan;

- enhanced technical support and better cooperation with WHO;
- upcoming cross-border project with Tajikistan;
- establishment of new health facilities (subcentres) under GAVI funds for strengthening the health care system;
- establishment of 18 sentinel sites to monitor the trend of malaria in high risk provinces;
- establishment of a malaria advisory board (enhanced coordination);
- incentives for the staff from the GFATM; and
- changes in programme leadership.

The elimination of *P. falciparum* malaria from northern Afghanistan and Tajikistan is the goal of the cross-border project proposal, 2008–2012, which was developed in 2007 by the WHO Regional Offices for Europe and the Eastern Mediterranean and would be implemented by the Ministries of Afghanistan and Tajikistan in close collaboration with both WHO Regions.

Islamic Republic of Iran

In Iran, the total population at risk of malaria is 2 714 648, and they mainly live in the southeast provinces. In 2006, the total reported number of malaria cases was 15 909, out of which 82% were autochthonous cases. *P. falciparum* and mixed infection represented only 8% of the total reported number of malaria cases. A total of 2805 malaria patients or 17.6% were non-Iranians, mainly from Afghanistan and Pakistan. In 2007 (as on 25 October) 15 469 cases of malaria were reported in the country out of which 76% were autochthonous.

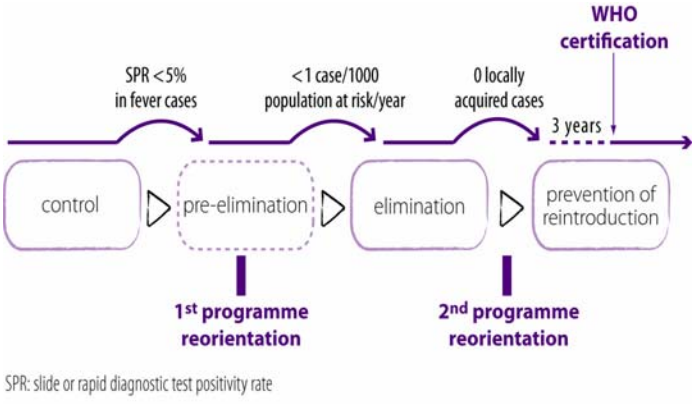
The national strategy on malaria was revised in 2006, with the goal of eliminating *P. falciparum* malaria in 3–4 years, and further reducing the number of autochthonous *P. vivax* malaria in a period of seven years. The malaria elimination strategy is aimed at the elimination of *P. falciparum* malaria in all areas of the country. Only introduced cases of *P. falciparum* might occur, and there will also be a reduction of *P. vivax* transmission. In the third stage of the new strategy, the objective will be a drastic reduction of local transmission of *P. vivax* in the residual and active malaria foci. At the end of the third stage only 500–700 autochthonous cases could be reported in the country per year.

Research and strategy development

Malaria elimination: existing strategies, available technologies, challenges and possible scenarios

Malaria elimination is defined as the reduction to zero of the incidence of locally acquired malaria infections in a defined geographical area. Malaria elimination evolves from a successful countrywide malaria control effort. Four phases have been identified in this continuum: control; pre-elimination; elimination; and prevention of reintroduction (see figure). These phases have distinct milestones, programme interventions and indicators for measuring progress. Case detection, prevention of onward transmission, management of malaria foci and management of importation of malaria parasites are critical interventions in elimination programmes. Most countries move forward by a phased expansion of the elimination programme to different geographical areas, depending on achievement of milestones, on programme readiness, and on

the remaining local burden of disease and the programme's capacity to deal with it. Programme discipline is a vital ingredient for success. The most difficult are areas with poor overall development and weak health systems with inadequate coverage, especially when they border relatively high burden areas and experience intense population movement. Countries that achieve interruption of local transmission (evidenced by a proven absence of locally acquired malaria cases nationwide for 3 consecutive years) can request WHO certification of the malaria-free status. The burden of proof falls on the country requesting certification. The careful preparation of a "malaria elimination database" will facilitate achievement of malaria elimination and the certification process. The document *Malaria elimination: a field manual for low and moderate endemic countries* is available from WHO/GMP/Geneva and on line at http://www.who.int/malaria



These milestones are indicative only. In practice the transitions will depend on the malaria burden that a programme can realistically handle, including case notifications and investigations, etc.

Elimination of *P. falciparum* from border areas of Tajikistan and Afghanistan: An example of interregional collaboration

Since the eradication era it is well known that trans-border transmission is a serious challenge to malaria elimination. The Tashkent Declaration endorsed by all malaria-affected countries of the WHO European Region stressed the need to promote interregional collaboration among countries of the WHO European and Eastern Mediterranean Regions. The issue was also studied at the conference "Health for All, Health by All: Communicable Diseases Recognize No Borders", which convened in Kabul on 17 April, 2006, that concluded with the signing of the Kabul Declaration on Regional Collaboration in Health by Ministers of Health and delegates from Afghanistan, Iran, Iraq, Pakistan, Tajikistan and Turkey.

P. falciparum malaria is the most dangerous species of human malarias. Without a timely treatment it may lead to severe complications and death. Epidemic of *P. falciparum* malaria are common in subtropical areas in the absence of control, leading to high mortality and heavy economic loss. In general, public health implications of *P. falciparum* malaria are much higher compared with *P. vivax* malaria, the second most important human species. Fortunately, *P. falciparum* is not well adapted to temperate and subtropical ecosystems and is more vulnerable in this environment, if antimalaria measures are conducted systematically. As demonstrated by 50 years experience of countries in temperate and subtropical zones that could have interrupted transmission of *P. falciparum* malaria, it has never re-emerged despite considerable importation

from remote areas. The only example to the contrary is the re-emergence of *P. falciparum* malaria in Tajikistan. However, this was not a metastatic transfer, as is common in *P. vivax* malaria, but a progression *per continuitatem*, like an oil spot, from neighbouring Afghanistan.

The project goal is as follows:

- Tajikistan: to interrupt, in a sustainable way, *P. falciparum* transmission in areas of Tajikistan bordering Afghanistan by the year 3;
- Tajikistan: to prevent re-emergence of *P. falciparum* in those areas due to importation by the year 5;
- Afghanistan: to reduce the incidence of *P. falciparum* in areas bordering Tajikistan to sporadic cases by the year 3;
- Afghanistan: to interrupt, in a sustainable way, *P. falciparum* transmission in areas of Afghanistan bordering Tajikistan by the year 5;
- Afghanistan: to have an efficient system of detection of residual transmission and its suppression, and of preventing the reintroduction of *P. falciparum*.

The project will build on existing antimalaria activities. The project will not interfere with ongoing activities, however, some will be reinforced in an unspecific way, and some will be added. It is expected to produce a catalytic impact in the implementation of the ongoing projects.

It is expected that due to the project implementation:

- by 2010, *P. falciparum* transmission will be interrupted in Tajikistan;
- by 2010, the incidence of *P. falciparum* will be brought down to a few isolated cases in the border areas of Afghanistan;
- by 2010, the system of *P. falciparum* control would be expanded to all districts in the bordering provinces of Afghanistan, including the Baghlan province;
- by 2012, the transmission of *P. falciparum* will be interrupted in the northern part of Afghanistan;
- Cases of imported *P. falciparum* will be effectively dealt with within the project area;
- the new border trade area at Sherkhan Bandar/Panji Poion will remain free from malaria transmission;
- activities under the project will considerably impact *P. vivax* transmission as well.

An update on the regional research project: *Anopheles* species and vector control in the WHO European Region

The following results have been achieved while studying taxonomy of vectors in countries of the WHO European Region:

- a new species of malaria vector has been discovered in Azerbaijan – *A. persiensis*; whose structure of ITS2 is similar to the structure of the same species from northern Iran;
- it has been shown that the malaria vector *A. melanoon* is widespread in western Georgia on the Black Sea coast, and its structure of ITS2 is similar to the structure of the same species from the Balkans;

- *A. sacharovi* whose density is comparable to *A. maculipennis* was found in eastern Georgia;
- it has been confirmed that *A. sacharovi* appeared again in the Ararat valley of Armenia after a long absence;
- the geographical distribution of *A. messeae* and *A. artemievi* has been specified in Middle Asia;
- it has been shown that *A. artemievi* and *A. superpictus* in the southern regions of Kyrgyzstan do not demonstrate irritability to alphacypermethrin, and they are susceptible to alphacypermethrin, deltamethrin and lambdacyhalothrin.

The following vector control approaches are recommended:

- in regions where seasonal transmission of malaria occurs and endophylic vectors prevail, indoor residual spraying should remain the principal vector control measure. In districts where the period of activity of vectors lasts four and more months, indoor residual spraying should be conducted in two rounds as a minimum, and the first round should be completed prior to the beginning of the malaria transmission season;
- in regions where seasonal transmission of malaria occurs and semi-exophylic and exophylic vectors prevail, indoor residual spraying should be combined with distribution of larvivorous fish, environmental management and protection of the human population by impregnated mosquito nets;
- in regions where autochthonous cases of *P. vivax*-malaria have not been registered for three years, indoor residual spraying should be ceased. In this case vector control should be based on distribution of larvivorous fish, environmental management and other personal protective measures.

The following studies on malaria may be considered in the WHO European Region: (1) geographical distribution of malaria vectors, particularly in Turkmenistan, in the eastern and southern parts of Uzbekistan and the southern part of Azerbaijan; (2) the role of mosquito species in malaria transmission and their ecological preferences that is particularly important for new species and the species which have restored their densities, and (3) characterization of the current status of vectors' populations based on studying physiological age of females in areas where large-scale vector control interventions are being applied.

An update on the regional research project: Genetic structure of the human malaria parasites in affected countries of the WHO European Region

The study of the genetic structure of *Plasmodium* allows supervising dynamics of the genetic composition of malaria parasites and permits to define their origin and ways of distribution within the WHO European Region.

Studies of the *Plasmodium* genetic structure were conducted in malaria-affected areas of Tajikistan and Kyrgyzstan during 2006–2007. Blood samples were taken from febrile patients and clinically suspected malaria cases. Malaria parasites were identified by a microscopic method and by PCR. The region of a gene 18S RNA of *Plasmodium* was used as marker for PCR-diagnostics. Genetic polymorphism of *P. vivax* was studied using two molecular-genetic markers: a gene of dihydrofolate reductase (*dhfr*) and a gene of merozoite surface protein 1 (*msp-1*). A molecular-genetic analysis was conducted with subsequent direct sequencing of a

product of amplification. The region of a gene *dhfr* in 711 b.p. was sequenced, and a polymorphism of nucleotide structure of this region and variability of a corresponding protein product were found. 3 variants of nucleotide sequences of the gene *dhfr* were revealed in the malaria pestholes of Central Asia. Two variants were characterized by nonsynonymous substitution in position 462. The third variant had a deletion of 18 nucleotides in position 294–309.

The high polymorphism was revealed by an analysis of the primary structure of the region of a gene *msp-1*. The primary structure of that region was found for parasites *P. vivax* in all malaria study sites of Tajikistan and Kyrgyzstan. The size of the studied sequences varied from 615 up to 699 b.p. due to long deletions in the region of Q-repeats in a corresponding merozoite surface protein, MSPI. Except for deletions conservative (9.5 %) and semi-conservative (6.6 %) substitutions were found in the investigated region of *msp-1*. Analysis of sequences of genes *dhfr* and *msp-1* with the use of a genebank database allowed for the establishment of phylogenetic relations of *P. vivax* malaria from Central Asia. The population of *P. vivax* malaria in Tajikistan and Kyrgyzstan originated as a result of expansion of parasites from the countries of Southeast Asia: Thailand, Myanmar, Indonesia, and South Korea.

A DNA-bank of malaria parasites from Central Asia and a database of *P. vivax* strains from different parts of the WHO European region are being established.

Developing a national strategy and plan for malaria elimination

If a government decides to eliminate malaria, it should be aware of what elimination implies. A malaria elimination campaign should be considered as a major national enterprise of an exceptional character, which therefore requires an exceptional approach. The national strategy on malaria should be revised or developed, realistic elimination objectives should be set, and strategic approaches and interventions should be elaborated to achieve the stated goal. It should be based on clear evidence that malaria elimination is technically and operationally feasible in a given country.

Any malaria elimination programme should develop a comprehensive and definite plan of action, backed up by strong government commitment and sufficient budgetary allocations. Once approved, a national plan of operations is a formal commitment for all parties concerned and this plan must be implemented in all its details. The main spheres in which government negligence or reluctance often cause failure are those of budget, personnel, administration and cooperation of the various governmental departments. In the late stage of an elimination programme, when the disease has become extremely rare, the government and external donors may fail to appreciate the need for a much larger provision of funds. A malaria elimination programme, though primarily a responsibility of the Ministry of Health, is a programme of the government as a whole. With the purpose of securing collaboration of various governmental bodies and partners involved, a coordinating council or board at the highest level is absolutely necessary. WHO should provide strategic guidance and technical assistance in the planning, implementation, monitoring and evaluation of elimination programmes. International organizations and agencies are particularly interested in good administration, both for the resources of the campaign they have been assisting, i.e. the achievements of elimination programmes, and for ensuring that the funds contributed are well spent. The success of the malaria elimination programme will depend not only on the coverage and quality of the various activities implemented, but also to a great extent on the involvement of the community and their partnership with the health sector. Political will from the government, adequate funding, professional programme management and effective

collaboration among different governmental bodies and others concerned are imperative to achieve stated elimination targets and goals.

Malaria elimination: Monitoring and evaluation

The ability to control and eliminate malaria requires an effective and comprehensive public health surveillance and response capacity. Malaria surveillance is an essential prerequisite for establishing local, national and regional priorities; planning, mobilizing and allocating resources as well as monitoring and evaluating control and elimination programmes. Malaria surveillance includes the process of detecting diseases through a standardized information collection system that can ensure data quality, analyse and interpret the data, determine malaria-related trends and patterns, get information to the individuals who can act on it, and then facilitate the necessary response that will effectively deal with the problem of malaria.

Monitoring is the routine (continuous) tracking of the performance of the malaria surveillance and response systems. Evaluation is the periodic assessment of changes in targeted results (objectives) that can be attributed to the malaria surveillance and response systems. Monitoring and evaluation are vital components of the malaria surveillance and response systems. Monitoring and evaluation of antimalaria activities aims to provide a systematic way of determining the extent to which elimination programmes are successful in achieving the operational targets and stated objectives.

The selection of indicators for monitoring and evaluating should be guided by the usefulness of the information generated, availability and ease of accessing the data, feasibility and cost–effectiveness of generating the required data. Additional criteria to consider include validity, sensitivity and reliability of the indicators. Generally, two types of indicators are used: monitoring and evaluation indicators. Monitoring indicators are used to track implementation of surveillance activities and to detect any changes over the time. Evaluation indicators are used to assess effectiveness of these above-mentioned systems in terms of the stated objectives, by assessing process, outputs, outcomes, and impacts of the system.

In order to reflect the new realities of moving from malaria control to elimination there is a need to strengthen national malaria monitoring and evaluation systems. Various types of epidemiological, ecological, entomological, sociological, demographic and meteorological monitoring are recommended to track changes in malaria-related indicators and their determinants over time and space. These systems should be upgraded to be more result-oriented and to provide timely, relevant and reliable information. In order to establish a viable monitoring and evaluation system for malaria elimination a number of key steps should be taken into consideration:

- establishment of baseline data on indicators;
- selection of key indicators;
- qualification of operational targets;
- definition of modes and frequency of data collection, analysis, and reporting for each key indicator;
- definition of the types, timing and levels of evaluation;
- definition of how the finding will be disseminated and utilized in decision making and incorporated into improved performance.

Mapping of the present extent of *P. falciparum* malaria in the WHO European and Eastern Mediterranean Regions
The efficient allocation of financial resources for malaria control requires information on the geographic distribution of malaria risk. An evidence-based description of the global range of *Plasmodium* falciparum malaria and its endemicity has not been assembled in almost 40 years.

It is important to discuss the generation of the revised spatial limits of *Plasmodium* falciparum malaria alongside some of the aims and objectives of the Malaria Atlas Project (MAP, http:www.ox.ac.uk). In brief, the global spatial distribution of *P. falciparum* malaria was generated using nationally reported case incidence data, medical intelligence and biological rules of transmission exclusion using temperature and aridity limits informed by the bionomics of dominant *Anopheles* vector species. These were detailed globally and examined in considerable detail for the WHO European and Eastern Mediterranean Regions.

Extractions from a projected population surface showed that approximately 2.4 billion people live in areas at any risk of *P. falciparum* transmission in 2007. Globally, almost one billion people live under unstable malaria risk. This new map is a plausible representation of the current extent of the *P. falciparum* risk and these populations have good prospects for *P. falciparum* malaria elimination.

Almost all *P. falciparum* parasite rates >50% are reported in Africa. Conditions of low parasite prevalence are also common on the continent, however. Outside of Africa, *P. falciparum* malaria prevalence is largely hypoendemic (less than 10%) with the median below 5%.

The spatial limits map is the most contemporary summary of the population at risk of *P. falciparum* malaria globally. It is planned to make continuous maps of malaria endemicity to guide elimination and control using the parasite rate database described, and the spatial limits will be made available in the public domain, subject to an ongoing process of peer review.

Intensifying partnership action

The Global Fund to Fight AIDS, TB and Malaria in Eastern Europe and Central Asia: Malaria overview

Every year the number of autochthonous malaria is decreasing in affected countries of the WHO European Region, but the Region still needs technical assistance and additional funds to move forward with malaria elimination. At present the GFATM provides five grants of more than USD 15 million to support the countries' response to malaria in Georgia, Uzbekistan, Tajikistan and Kyrgyzstan – until July 2012. All the projects funded are quite successful, and almost 50% of the total amount of USD 15.3 million has already been disbursed. In order to promote the new regional initiative with the goal of eliminating malaria in the Region by 2015, implementation of ongoing malaria projects funded by the GFATM should be implemented as planned, and all affected countries of the Region should be aware that additional financial resources are available and countries are welcome to submit their malaria project proposals for the 8th and next rounds.

Progress with implementation of the Global Fund project in Kyrgyzstan, 2006–2010: Moving from malaria control to elimination

The Global Fund project "Malaria Control in Kyrgyzstan", which was initiated in April 2006, is presently being implemented to strengthen national health capacities to cope with the problem of malaria. Within the framework of this project, Kyrgyzstan receives technical assistance, malaria-related trainings for various categories of health personnel and malaria specialists, support in disease management and prevention, vector control, malaria surveillance, epidemic preparedness and control, operational research, community-based interventions including public health education. The elements of strong political will to tackle the disease at the country level, intensive technical assistance from WHO, along with considerable financial assistance from the GFATM and particular focus on the local malaria situation and needs, have entailed a substantial reduction in the number of malaria cases in Kyrgyzstan. The country is considering developing a new project proposal to address malaria elimination and cross-border malaria issues, which is to be submitted to the GFATM.

Progress with implementation of the Global Fund project in Georgia, 2004–2012: A good basis for malaria elimination

The Global Fund malaria project, entitled "Strengthening the existing national response for implementation of effective malaria prevention and control activities in Georgia in 2004–2006" was initiated on July 1 2004. The Health and Social Project Implementation Centre was identified as a Primary Recipient of the above-mentioned project, and the National Centre for Disease Control and Medical Statistics was contracted by the Principal Recipient as the entity responsible for implementation of project activities in the country. The total budget of the project was USD 806 300. The objectives of the project were to: (1) strengthen institutional capacities of the national malaria control programme and general health services; (2) improve national capacities for and access to early diagnosis and adequate treatment of malaria; (3) promote cost effective and sustainable vector control; (4) strengthen country surveillance mechanisms; (5) increase community awareness and participation in malaria control and prevention. All tasks and objectives stated at the beginning of the project have been fulfilled, and this is the main reason why the GFATM has agreed to extend the project until July 2012. The new/extended project, entitled "Consolidating the results achieved: containing further an epidemic of malaria" has already become operational. The project is aimed at further reducing the malaria incidence paving the way for malaria elimination in the country by 2013. Close cooperation with the regional malaria programme of the WHO European Office is crucial for the successful planning, implementation, monitoring and evaluation of this project in Georgia.

Conclusions

The meeting took place almost two years following the endorsement of the Tashkent Declaration "The Move from Malaria Control to Elimination", by all malaria-affected countries of the WHO European Region. The new regional strategy with the ultimate goal to interrupt the transmission of malaria by 2015 within the Region, which was agreed by all affected countries in 2006, is being successfully implemented.

The reduction in the reported number of malaria cases by almost a fifteen-fold over the past eight years (1999–2006) is the most visible achievement of the regional malaria programme. The

rationale for organizing the meeting was to follow up on the implementation of the above-mentioned Declaration and to report on achievements and experiences related to malaria elimination accumulated over the past two years. Bearing in mind the results achieved by 2007, it can be assumed that all countries affected by autochthonous malaria will be able to proceed with malaria elimination as planned, and by 2010 Armenia, Turkmenistan and Tajikistan will ultimately interrupt the transmission of *P. vivax* and *P. falciparum* malaria.

All the endeavours made by countries, WHO and partners towards eliminating malaria are greatly appreciated. Participants at the meeting reaffirmed their commitment to the Tashkent Declaration and the declared goals and targets of the new regional strategy on malaria. The strategic guidance and technical assistance provided by WHO were highly acknowledged. Participants emphasized the need to ensure that affected countries are fully supported in their endeavours to go forward with national malaria elimination campaigns. Particular emphasis should be given to situations where a risk of spread of malaria across shared borders exists. In order to achieve a greater impact on the regional malaria situation, the need to intensify partnership action at interregional, subregional and country levels was underlined, and participants urged partners to increase the level of financial assistance for malaria elimination. A shortfall in funding would limit the scope of malaria elimination activities in the Region.

Выводы

Данное совещание проводилось почти два года спустя после ратификации Ташкентской декларации «Вперед от борьбы к элиминации малярии» всеми странами Европейского региона, столкнувшимися с возвратом малярии. Новая региональная стратегия с её конечной целью – перерывом передачи малярии к 2015 году, которая была одобрена всеми пораженными странами в 2006 году, в настоящее время успешно воплощается в жизнь.

Снижение зарегистрированных случаев малярии почти в пятнадцать раз, имевшее место на протяжении последних восьми лет (1999–2006 гг.) в Регионе, является значительным достижением региональной противомалярийной программы. Обоснованием для проведения данного совещания послужила необходимость оценки прогресса, достигнутого в процессе выполнения Ташкентской декларации, а также возможность показать успехи и обменяться опытом, накопленным за последние два года, по осуществлению программ по элиминации малярии. Учитывая результаты, достигнутые к 2007 году, можно предположить, что все страны Региона, где продолжает регистрироваться местная передача малярии, будут в состоянии обеспечить проведение национальных программ по элиминации малярии, как планировалось ранее, и к 2010 году, передача трехдневной и тропической малярии будет прервана в Армении, Туркменистане и Таджикистане, соответственно.

Все усилия, предпринимаемые странами, ВОЗ и партнерами по проведению программ по элиминации малярии, были отмечены с большим удовлетворением. Участники подтвердили еще раз обязательства, взятые в отношении Ташкентской декларации, и задач и целей новой региональной стратегии по малярии. Стратегическое руководство и техническая поддержка со стороны ВОЗ были оценены с благодарностью. Участники совещания также подчеркнули необходимость гарантировать, чтобы все страны, пораженные малярией, были полностью поддержаны в их усилиях по проведению

национальных кампаний по элиминации малярии. Особое внимание должно быть уделено ситуациям, где существует риск распространения малярии между прилегающими пограничными территориями соседних стран. Для достижения ещё больших результатов, участники подчеркнули необходимость усилить партнерское сотрудничество на межрегиональном, субрегиональном и национальном уровнях, и просили партнеров увеличить размер финансовой помощи для проведения программ по элиминации малярии. Было подчеркнуто, что недостаток финансов может ограничить объем мероприятий, направленных на элиминацию малярии в Регионе.

Recommendations

The following recommendations are based upon those formulated by the working groups and subsequently adapted and approved by participants in the final plenary session:

For Member States

1. To reaffirm the previous commitments:
   - to the regional resolution EUR/RC52/R10 “Scaling up the response to malaria in the European Region of WHO” endorsed by all Member States in September 2002;
   - to the Tashkent Declaration “The Move from Malaria Control to Elimination” endorsed by all malaria-affected countries of the WHO European Region, 2005;
   - to the Kabul Declaration “Health for All. Health by All: Communicable Diseases Recognize No Borders” endorsed by a number countries from the WHO European and Eastern Mediterranean Regions, 2006;
   - to the statement on progress achieved in malaria control made at the 56th session of the Regional Committee for Europe, September 2006.
2. To continue implementing, monitoring and evaluating malaria elimination programmes in Armenia, Tajikistan and Turkmenistan;
3. To continue assessing the feasibility of malaria elimination, developing national strategies and plans of action for malaria elimination, and agreeing upon their goals and targets in the remaining affected countries of the Region;
4. To ensure that all national training programmes and materials are continuously adapted to and appropriate for the implementing strategy, particularly on malaria elimination;
5. To continue the strengthening of epidemiological services and information systems, including an operational research component, capable of adequate planning, implementing and evaluating interventions related to malaria elimination;
6. To streamline mechanisms for more effective partnership action to promote malaria elimination efforts among governmental bodies, international agencies, nongovernmental organizations and the private sector by means of coordination committees at national level;
7. To promote cross-border collaboration and cooperation among neighbouring countries of Region.

For WHO (European Region)

1. To continue assisting countries to undertake assessments on issues of direct relevance to the feasibility of malaria elimination and identify the relevant countries' needs;
2. To continue supporting countries in their efforts towards planning, implementing, monitoring and evaluating the national malaria elimination programmes;
3. To develop approaches and mechanisms for certification of malaria elimination at national level;
4. To continue supporting countries in conducting malaria-oriented operational research activities and publishing their results, particularly on issues related to elimination;
5. To assist in the organization of:
   - a regional training workshop on vector biology and control, to be held in 2008;
   - a regional training course on malaria elimination, to be held in 2009;
   - cross-border meetings on malaria elimination, to be held in 2008–2009;
   - a WHO regional meeting of national malaria programme managers, to be held in 2009;
6. To assist in the mobilization of additional resources for malaria elimination.

For WHO (European and Mediterranean Regions)

1. To establish an interregional task force, comprising representatives of the countries concerned and WHO experts, in order to review the progress made with malaria elimination;
2. To assist in organizing interregional meetings and study tours to share experiences on malaria elimination between countries and regions;
3. To assist in developing joint malaria project proposals and implementing relevant projects for neighbouring countries belonging to the above-mentioned Regions;
4. To assist in sharing existing malaria-related data, including outcomes of operational research among neighbouring countries, particularly from different WHO Regions;
5. To continue supporting countries to plan, implement and monitor malaria projects funded by the Global Fund to Fight AIDS, Tuberculosis & Malaria (GFATM).

For partners (including GFATM)

1. To promote malaria elimination efforts within the Region by supporting:
   - countries in implementing ongoing antimalaria projects funded by partners;
   - countries in developing project proposals aimed at malaria elimination, where such projects are not yet in place;
2. To support the development of intercountry project proposals on malaria elimination;
3. To assist in the organization of joint meetings and exchange visits of qualified malaria country-level personnel between countries.

Рекомендации

Нижеприведенные рекомендации исходят из обсуждений в рабочих группах и последующего одобрения участниками во время заключительной пленарной сессии:

Для стран-участников

1. Оставить за собой прежние обязательства в области малярии, изложенные:
   - в региональной резолюции EUR/RC52/R10 «Усилим противомалярийную деятельность в Европейском регионе ВОЗ», принятой в сентябре 2002 года;
   - в Ташкентской декларации «Вперед от борьбы к элиминации малярии», одобренной всеми пораженными странами Европейского региона ВОЗ, 2006 г.;
   - в Кабульской декларации «Инфекционные болезни не распознают границ», принятой рядом стран Европейского и Восточно-Средиземноморского регионов ВОЗ, 2006 г.;
   - в докладе о прогрессе, достигнутом в деле борьбы с малярией, сделанном на 56-ой сессии Европейского регионального комитета в сентябре 2006 г.
2. Продолжить проведение программ по элиминации малярии и осуществление их мониторинга и оценки в Армении, Туркменистане и Таджикистане;
3. Продолжить оценку возможности элиминации малярии на уровне стран, а также разработку национальных стратегий и планов по элиминации малярии и согласования их целей и задач в остальных пораженных странах Региона;
4. Обеспечить, чтобы все национальные программы обучения и учебные материалы постоянно адаптировались и соответствовали потребностям реализуемой стратегии, в частности направленной на элиминацию малярии;
5. Продолжить укрепление эпидемиологических служб и информационных систем, включая научно-исследовательский компонент, для обеспечения адекватного планирования, проведения и оценки мероприятий, связанных с элиминацией малярии;
6. Оптимизировать механизмы для более эффективного партнерского сотрудничества в деле элиминации малярии среди государственных структур, международных агентств, негосударственных организаций и частного сектора через национальные координационные комитеты на национальном уровне;
7. Улучшить взаимодействие и координацию в проведении противомалярийных программ между странами Региона;

Для ВОЗ (Европейское региональное бюро)

1. Продолжить оказание помощи в проведение оценочных исследований, направленных на изучение возможности элиминации малярии в той или иной стране и определить потребности, необходимые странам для проведения данных программ;
2. Продолжить оказание помощи странам в их усилиях по планированию, проведению, мониторингу и оценке национальных программ по элиминации малярии;
3. Разработать подходы и механизмы для сертификации элиминации малярии на национальном уровне;

4. Продолжить оказание помощи в проведении научно-практических исследований по малярии и публикации их результатов, в частности в области элиминации малярии;
5. Оказать помощь в организации:
   - регионального обучающего курса по биологии и борьбы с переносчиками малярии, который будет проведен в 2008 году;
   - регионального обучающего курса по элиминации малярии, который будет проведен в 2009 г.;
   - организации трансграничных совещаний по элиминации малярии, которые будут поведены в 2008–2009 годах;
   - регионального совещания ВОЗ для стран, пораженных малярией, который будет проведен в 2009 году;
6. Оказать помощь в мобилизации дополнительных ресурсов для элиминации малярии.

Для ВОЗ (Европейское региональное бюро и Восточно-Средиземноморское бюро)

1. Создать межрегиональную группу, включающую представителей всех заинтересованных стран и экспертов ВОЗ для оценки результатов проведенной работы в области элиминации малярии;
2. Оказать помощь в организации межрегиональных совещаний и обмена специалистами с целью обмена опытом в области элиминации малярии между вышеупомянутыми регионами и странами;
3. Продолжить оказание помощи в подготовке совместных проектов по малярии, а также в их осуществлении в пограничных странах вышеупомянутых регионов;
4. Оказать помощь в обмене существующей информацией о малярии, включая результаты научно-практических исследований между пограничными странами, в особенности из разных регионов ВОЗ;
5. Продолжить оказание помощи в планировании, проведении и мониторинге проектов малярии, осуществляемых в рамках Глобального фонда.

Для партнеров (включая Глобальный фонд)

1. Для успешного проведения программы по элиминации малярии в Регионе:
   - продолжить оказание помощи странам, получившим поддержку от партнеров в проведении данных проектов;
   - оказать помощь странам, не получившим до настоящего времени поддержку от партнеров в подготовке национальных проектов, направленных на элиминацию малярии;
2. Поддержать разработку межстрановых проектов по элиминации малярии;
3. Поддержать организацию совместных совещаний и обмен квалифицированными специалистами противомалярийных программ между странами.

Annex 1

PROGRAMME

Tuesday, 30 October	
08:30–09:00	Registration
09:00–09:10	Welcome by *Minister of Health*, Turkmenistan
09:10–09:30	Welcoming address by *Dr A. Rietveld*, Global Malaria Programme, WHO headquarters *Mr G. Schmets*, WHO Regional Office for Europe
09:30–09:45	Introduction of participants Meeting objectives and arrangements Election of Chairperson and Rapporteur
09:45–10:15	*Coffee break*
10:15–10:30	World update on malaria control and elimination *(WHO/GMP/HQ)*
10:30–10:45	Progress towards eliminating malaria in the WHO European Region *(WHO/MAL/Europe)*
10:45–11:00	Progress towards eliminating malaria in the WHO Eastern-Mediterranean Region *(WHO/MAL/Eastern-Mediterranean Region)*
11:00–11:15	The GFATM: Malaria overview *(Dr. U. Weber)*
11:15–11:30	Plenary discussion
11:30–12:45	Progress and challenges towards eliminating malaria at country level *(Armenia, Georgia, Kyrgyzstan, Turkmenistan, Uzbekistan)*
12:45–13:00	Plenary discussion
13:00–14:00	*Lunch break*
14:00–15:15	Progress and challenges towards eliminating malaria at country level *(Afghanistan, Azerbaijan, Iran, Tajikistan, Turkey)*
15:15–15:30	Plenary discussion
15:30–16:00	*Coffee break*
16:00–16:45	Country experience with prevention of the reintroduction of malaria *(Kazakhstan, Moldova, Russian Federation)*
16:45–17:00	Plenary discussion
17:00–17:15	Wrap-up session – closure of first day *(Rapporteur)*

Wednesday, 31 October	
09:00–09:30	Malaria elimination: existing strategies, available technologies, challenges and possible scenarios *(Dr A. Rietveld)*
09:30–10:00	Elimination of *P. falciparum* malaria from border areas of Tajikistan and Afghanistan: an example of interregional collaboration *(Dr A. Beljaev)*
10:00–10:15	Plenary discussion
10:15–10:45	*Coffee break*
10:45–11:15	An update on the regional research project: *Anopheles* species and vector control in the WHO European Region *(Dr A. Zvantsov)*
11:15–11:45	An update on the regional research project: Genetic structure of the human malaria parasites in affected countries of the WHO European Region *(Dr M. Gordeev)*
11:45–12:00	Plenary discussion
12:00–13:00	*Lunch break*
13:00–13:20	Developing a national strategy and plan for malaria elimination *(Dr R. Kurdova-Mintcheva)*
13:20–13:40	Malaria elimination: monitoring and evaluation *(Dr A. Baranova)*
13:40–14:00	Mapping of the present extent of malaria in the WHO European and Eastern-Mediterranean regions *(Dr S. Hay)*
14:00–14:15	Plenary Discussion
14:15–14:30	Progress with implementation of the Global Fund project in Kyrgyzstan, 2006–2010: Moving from malaria control to elimination *(GFATM/Kyrgyzstan)*
14:30–14:45	Progress with implementation of the Global Fund projects in Georgia, 2004–2011: A good basis for malaria elimination *(GFATM/Georgia)*
14:45–15:00	Plenary discussion
15:00–15:30	*Coffee break*
15:30–15:45	Introduction of group work
15:45–17:15	Group work *(Drafting recommendations)*: Working group 1: Next steps for malaria elimination and cross-border cooperation *(representatives of Armenia, Azerbaijan, Georgia, Iran, Turkey, experts, partners, WHO)* Working group 2: Next steps for malaria elimination and cross-border cooperation *(representatives of Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, experts, partners, WHO)*

	Working group 3: Finalization of cross-border project on *P. falciparum* malaria elimination *(representatives of Afghanistan, Tajikistan, experts, partners, WHO)*
17:15–17:30	Wrap-up session – closure of second day *(Rapporteur)*
Thursday, 1 November	
09:00–11:00	Group work continued
11:00–11:30	*Coffee break*
11:30–12:00	Working group presentations – conclusions/recommendations
12:00–12:45	Plenary discussion and adoption of recommendations
12:45–13:00	Closing statements and remarks

Annex 2

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