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Inception meeting on the malaria elimination initiative

in the WHO European Region

**Tashkent, Uzbekistan
18-20 October 2005**





INCEPTION MEETING ON THE MALARIA ELIMINATION INITIATIVE IN THE WHO EUROPEAN REGION

Report on a WHO meeting

Tashkent, Uzbekistan
18 – 20 October 2005

ABSTRACT

The rationale for organizing this meeting is that the demonstrated feasibility of malaria elimination in the past, the visible impact of Roll Back Malaria (RBM) interventions at present, the strong political commitments to move further from malaria control to elimination at national level, and the availability of effective control technologies and tools, may facilitate future decisions towards undertaking the new elimination effort within malaria-affected countries of the WHO European Region.

Participants greatly appreciated the efforts made by countries, WHO and RBM partners to contain large-scale epidemics of malaria and reduce its burden. Participants reaffirmed their commitment to the declared goals and objectives of the present regional malaria control strategy, and recognized the need to consolidate the results achieved and to move further from malaria control to elimination. Participants emphasized the need to ensure that malaria-affected countries are fully supported in their endeavours to enhance national malaria control and elimination campaigns in order to achieve a greater impact on the regional malaria situation.

Participants welcomed the Regional Initiative "To Move from Malaria Control to Elimination" and recommended the Tashkent Declaration to be endorsed by all the participating countries in order to make it operational and to go into effect.

Keywords

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EXECUTIVE SUMMARY

The meeting took place six years following the development of a regional strategy to roll back malaria and its successful implementation in malaria affected countries of the WHO European Region. The aim of the regional strategy, which is being implemented, is to reduce the impact of the disease on the health of the population to the lowest possible level that can be achieved with the available financial and manpower resources, existing control technologies and tools. The regional resolution "Scaling up the response to malaria in the European Region of WHO", endorsed by all Member States in September 2002, urged countries of the Region confronting the resurgence of malaria to take all possible measures aimed at containing malaria epidemics and reducing further the burden of malaria. The reduction in the reported number of malaria cases by almost four-fold over the past six years is the most conspicuous achievement of the regional Roll Back Malaria programme so far. Each successful milestone in the reduction of a disease allows for the establishment of new and more demanding objectives along the path to achieving these goals. The rationale for organizing the meeting was that the demonstrated feasibility of malaria elimination in the past, the visible impact of Roll Back Malaria (RBM) interventions at present, the will to move further from malaria control to elimination at national level, and the availability of the efficacious tools to control and eliminate malaria in the regional context, may facilitate future decisions towards undertaking the new elimination effort within malaria-affected countries of the WHO European Region.

The meeting was convened (1) to report on achievements and to share experiences with rolling back malaria between countries and regions; (2) to review existing practical modalities on dealing with malaria and identify problems encountered in participating countries; (3) to streamline mechanisms for more effective RBM partnership action at sub-regional and country levels; (4) to promote cross-border cooperation; and (5) to stimulate the flow of additional resources for malaria control and elimination, including innovative financial mechanisms (e.g. GFATM). The following countries were represented: Afghanistan, Armenia, Azerbaijan, Bulgaria, Georgia, Iran, Kazakhstan, Kyrgyzstan, Republic of Moldova, the Russian Federation, Syria, Tajikistan, Turkmenistan, Turkey and Uzbekistan. WHO was represented with staff from WHO headquarters, the Regional Offices for Europe and the Eastern Mediterranean. Representatives and experts from USAID/CAR, GFATM headquarter, Georgia, Uzbekistan, ECHO/Central Asia, ACTED/Central Asia, the Martsinovskiy Institute of Medical Parasitology and Tropical Medicine/Moscow, the Central Institute for Postgraduate Medical Training/Moscow, the Vavilov Institute of General Genetics/Moscow and Vestergaard Frandsen/Middle East attended the meeting as well.

The efforts made by the countries, WHO and RBM partners to contain large-scale epidemics of malaria and reduce its burden are greatly appreciated, and participants reaffirmed their commitment to the declared goals and objectives of the present regional malaria control strategy, at the same time recognizing the need to consolidate the results achieved and to move further from malaria control to elimination. The Strategic guidance and technical assistance provided by WHO were acknowledged with satisfaction and participants emphasized the need to ensure that malaria-affected countries are fully supported in their endeavours to go forward with national malaria control and elimination campaigns. In the context of malaria elimination, particular emphasis should be given to situations, where a risk of spread of malaria across shared borders exists. The regional RBM movement has successfully mobilized the collective efforts of countries, international agencies, bilateral organizations, NGOs, and the private sector to create greater awareness of the malaria problem and to increase the amount of overall resources available for malaria in the WHO European Region. In order to achieve a greater impact on the regional malaria situation, participants underlined the need to intensify partnership actions at sub-regional and country levels and urged partners and donors to increase the level of financial assistance. A shortfall in funding would limit the scope of regional RBM programme activities.

It was recommended for Member States: (1) to remain committed 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; (2) to recognize the need to consolidate the results achieved and move further from malaria control to elimination; (3) in collaboration with WHO to assess the possibility of malaria elimination in a given country, particularly where the interruption of malaria transmission is a feasible objective in the near future; (4) in collaboration with WHO to develop

national strategies and agree upon their goals and targets for malaria elimination; (5) to streamline mechanisms for a more coordinated approach to malaria and more effective RBM partnership action (governmental bodies, international agencies, non-governmental organizations & private sector) at national level; and (6) to promote cross-border cooperation in order to coordinate and synchronize malaria-related activities in border areas.

It was recommended for WHO (Europe): (1) to continue supporting countries in their efforts to tackle the disease, drawing particular attention to strengthening institutional capacities; enhancing capacity for decision-making; improving capacities for epidemic preparedness, response and prevention; reinforcing disease surveillance; community mobilization and strengthening national research capabilities; (2) to assist in advocating, promoting and facilitating national efforts in countries in need, in order to move from malaria control to elimination; (3) to develop a regional strategy for malaria elimination with well-defined objectives and goals; (4) to assist countries to undertake base-line assessments on issues of direct relevance to the possibility of malaria elimination and identify the financial needs of the countries for malaria elimination; (5) to continue supporting countries in establishing a regional resource network for country support on malaria-oriented operational research; (6) to assist in organizing of a regional conference on operational research related to malaria, to be held in 2006; (7) to assist in organizing of a regional international training course on malaria, to be held in 2007; (8) to assist in organizing of a regional meeting of national malaria programme managers, to be held in 2007; and (9) to assist in mobilizing additional resources for malaria control and elimination.

It was recommended for WHO (Europe and Eastern Mediterranean): (1) to assist in organizing inter-regional meetings (every two years) and study tours (every year) to report on achievements and to share experiences on malaria control and elimination between countries and regions; (2) to establish an inter-regional task force, comprising representatives of the countries concerned and WHO experts, in order to review the progress made with malaria control and elimination; and (3) to assist in drawing up and submitting joint malaria project proposals for neighbouring countries belonging to the above-mentioned Regions (countries of Central Asia and Afghanistan).

It was recommended for RBM partners: (1) to continue supporting countries in strengthening their capacities and capabilities to deal successfully with malaria; (2) to support development of inter-country malaria project proposals; and (3) to consider providing additional financial resources to support countries' endeavours to consolidate the results achieved and move forward with national malaria elimination campaigns.

It was recommended for GFATM, WHO (Europe) and Member States: (1) to continue supporting countries to plan, implement and monitor malaria projects funded by the Global Fund; and (2) to assist in organizing a regional meeting on progress made with implementation of the Global Fund malaria projects, to be held in 2006.

Taking into account the substantial progress made with rolling back malaria in affected countries, where in some of them, the incidence of malaria has been brought down to such levels that interruption of its transmission may become a feasible objective, participants welcomed the Regional Initiative "To Move from Malaria Control to Elimination" and recommended the Tashkent Declaration to be endorsed by all the participating countries, in order to make it operational and to go into effect.

РЕЗЮМЕ

Данное совещание было проведено через шесть лет после разработки и успешного осуществления региональной стратегии «Обратим Вспять Малярию» (ОВМ) в пораженных малярией странах Европейского региона ВОЗ. Целью региональной стратегии, проводимой в настоящее время, является снижение воздействия малярии на здоровье населения до максимально возможного уровня, которое можно достичь с помощью имеющихся финансовых и людских ресурсов, а также существующих на сегодняшний день технологий и средств. Региональная резолюция, направленная на “Усиление противомаларийной деятельности в Европейском регионе ВОЗ”, которая была принята всеми странами Региона в сентябре 2002 года, призывает страны, пораженные малярией, предпринять все возможные меры по сдерживанию эпидемий малярии и уменьшению бремени, связанного с этой инфекцией. Снижение случаев малярии почти в четыре раза, имевшее место на протяжении последних шести лет в странах Региона, является наиболее значительным достижением региональной программы ОВМ. Каждая новая веха, достигнутая на пути борьбы с инфекционными болезнями, позволяет нам ставить новые и еще более серьезные цели и задачи. Основной идеей для проведения данного совещания послужило то, что возможность элиминации малярии, наглядно подтвержденная в недалеком прошлом; достигнутые результаты в борьбе с малярией в настоящее время; желание стран не останавливаться на достигнутом и двигаться дальше от борьбы к элиминации малярии, а также наличие эффективных средств для борьбы и элиминации малярии в региональном контексте, могли бы способствовать в дальнейшем принятию решений о возможности проведения кампаний по элиминации малярии в пораженных странах Региона.

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 программ; (3) оптимизировать механизмы для более эффективного партнерского сотрудничества в рамках ОВМ; (4) улучшить сотрудничество между странами пораженных малярией, а также (5) стимулировать приток дополнительных ресурсов на борьбу с малярией и ее ликвидацию, в том числе за счет использования таких инновационных финансовых механизмов, как Глобальный фонд борьбы со СПИДом, туберкулезом и малярией (ГФСТМ). На совещании присутствовали представители Афганистана, Армении, Азербайджана, Болгарии, Грузии, Ирана, Казахстана, Кыргызстана, Республики Молдова, Российской Федерации, Сирии, Таджикистана, Туркменистана, Турции и Узбекистана. Всемирная Организация Здравоохранения была представлена персоналом из штаб-квартиры, Европейского и Восточно-Средиземноморского бюро. Представители из Американского агентства по международному развитию (Центрально-Азиатская миссия), Глобально Фонда по борьбе с СПИДом, туберкулезом и малярией (штаб-квартира и проект по внедрению, Грузия), Гуманитарного управления Европейского Союза (Центральная Азия), АКТЕД (Центральная Азия), Института Медицинской Паразитологии и Тропической Медицины имени Марциновского, Центрального Института постдипломного медицинского образования, Института Общей Генетики имени Вавилова и Vestergaard Frandsen (Средний Восток) также присутствовали на совещании.

Участники совещания с удовлетворением отметили те серьезные усилия прикладываемые странами, ВОЗ и ОВМ партнерами по сдерживанию широкомасштабных эпидемий малярии и снижения ущерба от нее. Участники подтвердили заново обязательства, ранее взятые в отношении задач и целей внедряемой региональной стратегии по борьбе с малярией, и признали необходимость поддержания достигнутых результатов, консолидации усилий и дальнейшего движения от борьбы к элиминации малярии. Стратегическое руководство и техническая поддержка со стороны ВОЗ было оценено с благодарностью, и участники подчеркнули необходимость гарантировать, что страны пораженные малярией будут полностью поддержаны в дальнейшем в их усилиях по проведению национальных кампаний по борьбе и элиминации малярии. В контексте элиминации малярии, особое внимание должно быть уделено ситуациям, где существует риск распространения малярии между прилегающими пограничными территориями соседних стран. Региональное движение ОВМ

успешно мобилизовало общие усилия стран, международных агентств, неправительственных организаций, и частного сектора для улучшения осведомленности о малярии и увеличения ресурсов для поддержки программы ОВМ в Европейском Регионе. Для достижения больших результатов в борьбе с малярией, участники подчеркнули необходимость усилить партнерское сотрудничество на субрегиональном и национальном уровнях, и просили ОВМ партнеров и доноров увеличить размер финансовой помощи. Было особенно подчеркнуто, что недостаток финансов может ограничить объем мероприятий, проводимых в рамках региональной ОВМ программы.

Следующие положения было рекомендованы для стран-участников: (1) Оставить за собой прежние обязательства в области малярии, изложенные в принятой в сентябре 2002 года региональной резолюции EUR/RC52/R10 «Усилим противомаларийную деятельность в Европейском регионе ВОЗ»; (2) признать необходимость консолидировать достигнутые результаты и двигаться дальше от борьбы к элиминации малярии: к 2010 году - для тропической малярии и к 2015 году - для трехдневной малярии; (3) в сотрудничестве с ВОЗ, оценить возможность элиминации малярии (включая финансовые потребности) в странах, пораженных малярией, в особенности в тех, где перерыв передачи малярии возможен в ближайшем будущем; (4) в сотрудничестве с ВОЗ, разработать национальные стратегии элиминации малярии и согласовать их цели и задачи; (5) оптимизировать механизмы для улучшения координации противомаларийной деятельности и более эффективного партнерского сотрудничества по линии ОВМ (государственные структуры, международные агентства, негосударственные организации и частный сектор) на национальном уровне; и (6) улучшить взаимодействие между странами по координации проведения противомаларийных мероприятий;

Следующие положения было рекомендованы для ВОЗ (Европейское Региональное Бюро): (1) продолжить оказание помощи в проведении противомаларийных мероприятий, уделяя особое внимание укреплению противомаларийной службы, подготовке кадров, улучшению системы быстрого реагирования на эпидемии малярии и их предупреждения, усилению системы эпидемиологического надзора, работе с населением и укреплению научно-исследовательского потенциала в области малярии; (2) оказать необходимую техническую помощь в продвижении региональной инициативы «Вперед от борьбы к элиминации малярии» на национальном уровне; (3) разработать региональную стратегию элиминации малярии с формулировкой четко обозначенных целей и задач; (4) провести, совместно со странами, оценочные исследования, направленные на изучение возможности элиминации малярии в той или иной стране и определить финансовые потребности необходимые странам для проведения программ с целью элиминации малярии; (5) продолжить оказание помощи в создании региональной ресурсной сети для поддержки стран в области научно-практических исследований по малярии; (6) оказать помощь в организации первой региональной конференции, посвященной научно-практическим исследованиям по вопросам малярии, которая предположительно могла бы состояться в 2006 году; (7) оказать помощь в организации 4-недельного международного курса по малярии, который предположительно могло бы состояться в 2007 году; (8) оказать помощь в организации регионального совещания стран, пораженных малярией, которое предположительно могло бы состояться в 2007 году; и (9) оказать помощь в мобилизации дополнительных ресурсов для борьбы и элиминации малярии.

Следующие положения было рекомендованы для ВОЗ (Европейское региональное бюро и Восточно-Средиземноморское бюро): (1) оказать помощь в организации межрегиональных совещаний (каждые два года) и обмена специалистами (каждый год) для отчета о достигнутых результатах и обмена опытом в области борьбы и элиминации малярии между вышеупомянутыми регионами и приграничными странами; (2) создать межрегиональную группу, включающую представителей всех заинтересованных стран и экспертов ВОЗ для оценки результатов проведенной работы в области борьбы и элиминации малярии; и (3) оказать помощь в подготовке и предоставлении для рассмотрения совместных проектов по малярии, включающих пограничные страны вышеупомянутых регионов (страны Центральной Азии и Афганистан).

Следующие положения было рекомендованы для ОВМ партнеров: (1) продолжить оказание помощи странам в укреплении их лечебно-профилактических служб и научно-практического

потенциала для успешного проведения противомаларийных мероприятий; (2) Поддержать разработку межнациональных проектов по малярии; и (3) изыскать возможность выделения дополнительных финансовых средств для поддержки стран в консолидации достигнутых результатов и их дальнейшем движении по пути элиминации малярии.

Следующие положения было рекомендованы для Глобального Фонда, ВОЗ (Европейское региональное бюро) и стран-участников: (1) продолжить оказание помощи в разработке, планировании, проведении и мониторинге проектов малярии, осуществляемых в рамках Глобального Фонда; и (2) оказать помощь в организации региональной конференции по вопросам реализации проектов по малярии, финансируемых Глобальным Фондом, которая могла бы состояться в 2006 году.

Принимая во внимание очевидный прогресс достигнутый по региональной программе ОВМ в пораженных странах, где, в некоторых из них, заболеваемость малярией была снижена до такого уровня, что перерыв ее передачи становится возможным, участники совещания приветствовали региональную инициативу «Вперед от Борьбы к Элиминации Малярии» и рекомендовали соответствующую декларацию для принятия всеми странами, участвующими в совещании.

INTRODUCTION

The Inception Meeting on the Malaria Elimination Initiative in the WHO European Region “The Move from Malaria Control to Elimination”, organized by the WHO Regional Office for Europe, in collaboration with the Government of Uzbekistan and the United States Agency for International Development/Regional Mission for Central Asia (USAID/CAR), was held in Tashkent, Uzbekistan from 18 to 20 October 2005. Officials (Annex 2) from Afghanistan, Armenia, Azerbaijan, Bulgaria, Georgia, Iran, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Syria, Tajikistan, Turkmenistan, Turkey, Uzbekistan, WHO staff, experts and RBM partners attended the meeting.

Scope and purpose of the meeting

The objectives of the meeting were:

- to report on achievements and to share experiences with rolling back malaria between countries and regions;
- to review existing practical modalities on dealing with malaria and identify problems encountered in participating countries;
- to streamline mechanisms for more effective RBM partnership action at sub-regional and country levels;
- to promote cross-border cooperation; and
- to stimulate the flow of additional resources for malaria control and elimination, including innovative financial mechanisms (e.g. GFATM).

Inaugural session

The meeting was inaugurated by Professor F. Nazirov, Minister of Health of Uzbekistan, who emphasized the results achieved in fighting malaria in the country and the need for better cross-border cooperation and collaboration in the field of malaria control and prevention between countries. Professor Nazirov also expressed his appreciation to WHO/Europe and USAID/CAR for sponsoring the meeting. Dr F. Nafu-Traore, Director, Roll Back Malaria, 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 and facilitate future decisions towards undertaking the new elimination effort within malaria-affected countries of the WHO European Region. Dr G. Magnusson, Director, Division of Technical Support Reducing Disease Burden, WHO/Europe, speaking on behalf of Dr Marc Danzon, Regional Director for WHO/Europe, mentioned that this meeting is taking place six years following the development of a regional strategy to Roll Back Malaria and its successful implementation and that the reduction in the number of malaria cases by almost four-fold over the past six years is the most conspicuous achievement of the regional RBM programme to date. Each successful milestone in the reduction of a disease allows for the establishment of new and more demanding objectives along the path to achieving these goals. Dr K. Pelzman, Director, Office of Health and Education, USAID/CAR underlined that the challenge of malaria represents a regional threat and work toward its elimination demands a regional response. Dr V. Chernyavskiy, Fund Portfolio Manager, the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) stressed that the Global Fund was created to dramatically increase resources to fight three of the world's most devastating diseases and to direct those resources to areas of greatest need. The Global Fund works very closely with malaria-affected countries of the WHO European Region; and with Global Fund grants Georgia, Uzbekistan, Tajikistan and Kyrgyzstan will be able to strengthen their national capacities and capabilities to cope with malaria at country level.

Organization of the meeting

The first day of the three-day meeting was devoted to a world update on Roll Back Malaria, progress with Roll Back Malaria and challenges to malaria elimination in the WHO European and Eastern Mediterranean Regions, as well as to country presentations on progress with and challenges to roll back malaria at country level. On the second day, scientific presentations were made related to the biology of malaria vectors in countries of the WHO European Region; the analysis of different *Anopheles* species using cytogenetical, molecular and genetic techniques; PCR detection and identification of genetic differences in malaria parasites infecting human subjects in Central Asia and malaria elimination and its application in the WHO European Region. Issues related to scaling up RBM partnerships, challenges to and progress with RBM partnership action in Central Asia (USAID/CAR, WHO/Europe and ACTED), and progress with implementation of the Global Fund malaria project in Georgia (GFATM/Georgia) were presented and discussed. Subsequently, three groups were formed to discuss malaria control and elimination as well as cross-border cooperation in countries of Central Asia and Afghanistan (Group 1) in countries of the Trans-Caucasian Region, Turkey, Iran and Syria (Group 2). The third group drafted a regional declaration on malaria elimination. 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.

Professor Feruz Nazirov, Minister of Health, Uzbekistan, was elected as Chairman of the meeting; Dr Bakhtiyor Niyazmatov, Deputy Minister of Health, Uzbekistan; Dr Zievuddin Avgonov, Deputy Minister of Health, Tajikistan, and Professor Vladimir Davidyants, Head State Sanitary Doctor, Ministry of Health, Armenia were elected Co-Chairmen. Dr Nurbolot Usenbaev, First Deputy General Director, Ministry of Health, Kyrgyzstan, was elected to serve as Rapporteur.

WORLD UPDATE ON ROLL BACK MALARIA

Malaria remains one of the major tropical health challenges in the world today. The number of malaria deaths in the world has been estimated between 1.1- 1.3 million in the World Health Reports. Based on the reported malaria data and estimations of population at risk and incidence rates, it is estimated that the malaria incidence in 2004 was between 350 – 500 million cases. Malaria is considered to be endemic in 1007 countries and territories. About 90% of the world's malaria deaths are estimated to occur in tropical Africa south of the Sahara, where the majority of infections are caused by the most dangerous species, *Plasmodium falciparum*, which is predominantly transmitted by vectors that are highly efficient, widespread and difficult to control. It is generally agreed that malaria causes around 20% of all deaths in children under 5 in Africa and that it is now the most important cause of death in this group. Most of the people at risk of malaria in Africa live in areas where transmission is relatively intense and continuous, so that with increasing age some degree of immunity to malaria develops. In such areas, young children and pregnant women are at greatest risk of malaria infections and death due to their lower levels of malaria immunity. With the exception of Papua New Guinea and focal intense transmission areas in forests of Southeast Asia and the Amazon Basin where malaria burdens may be as severe as in the savannah areas of Africa, malaria transmission in the rest of the world is from low to moderate. In tropical and subtropical areas, the disease burden may be due to both *P. falciparum* and *P. vivax* malaria, whereas in the temperate zones only *vivax* malaria is usually transmitted nowadays. In areas of low to moderate transmission, all age groups may be equally at risk. Around 5 million confirmed cases of malaria are reported each year from countries outside Africa south of the Sahara, of which almost 3 million are from India and Pakistan, countries in which the malaria situation has remained more or less unchanged for the last decade. However, it is generally assumed that the actual number of cases in the world is much greater.

The international community is making funds available for malaria control in the most affected countries on a scale never seen before, and politicians in both developing and industrialized countries are converging on the need to act now. The aim is that by 2010, the malaria-associated mortality is halved; and by 2015, the malaria-related Millennium Development Goals (MDGs) are

achieved, malaria morbidity and mortality are reduced by 75% in comparison with 2005, universal and equitable coverage with effective interventions is achieved and malaria is no longer a barrier to social and economic development and growth anywhere in the world.

The fight to control malaria demands an attack on two fronts: protecting the vulnerable and treating the sick. And it is essential that the measures used are affordable and sustainable so that they can contribute to work far into the future. Sleeping under a mosquito net treated with insecticide that kill mosquitoes or stop them from biting is powerful prevention against malaria, as is spraying inside dwellings with insecticides that leave a residue on walls. Special protection for pregnant women using these insecticide-treated nets and intermittent preventive treatment with antimalarial drugs given as part of normal antenatal care can protect the mother and her unborn child. Rapid treatment with effective antimalarial drugs (in particular artemisinin-based combination therapies - ACTs) for anyone suspected of having malaria can save lives. And improved early warning, detection and response to malaria epidemics can avert catastrophe. Nearly a third of children under five in Eritrea, Gambia, Guinea-Bissau, Sao Tome and Prince and parts of Malawi and the United Republic of Tanzania now sleep under insecticide-treated mosquito nets. In 2001 RBM advised countries where malaria has become resistant to chloroquine and other medicines to adopt ACTs. By the end of 2004, 40 countries had followed RBM advice and changed their drug policies. With RBM assistance eight African countries, Cambodia, India, the Islamic Republic of Iran and Viet Nam have adopted home management of malaria as a national strategy. Under RBM's guidance, 23 countries have adopted intermittent preventive malaria treatment for pregnant women as part of their reproductive health policies and are providing insecticide-treated mosquito nets at low cost or free of charge. With support provided by RBM, 19 out of 25 African countries prone to epidemics have established weekly surveillance systems for malaria. RBM has been instrumental in bringing together partners to develop successful proposals to the Global Fund to Fight AIDS, Tuberculosis and Malaria for malaria control in many countries, including eight countries with complex emergencies.

The RBM strategy, which is based on four basic elements adopted in 1992 by a Ministerial Conference on Malaria and subsequently endorsed by the World Health Assembly and the UN General Assembly in 1993, includes seven different strategic components, which are described below:

- Ensure effective malaria prevention for all at-risk populations (malaria vector control) and personal protection; select proven technologies appropriate to the local setting; reach high (>80%) coverage quickly; sustain high coverage (>80%); target the most vulnerable groups; ensure coverage is with high-quality products and services; continuously develop and optimize prevention technologies and delivery mechanisms; intermittent preventive treatment);
- Ensure effective, timely treatment (select proven technologies; reach high coverage (>80%) quickly; sustain high coverage (>80%) with high-quality products and services; prioritize access for the most vulnerable groups);
- Reduce impact of emergencies and epidemics;
- Result-oriented investments (coordination; financing: domestic financing through national budgets and external financing through the Global Fund, multilateral development banks, bilateral agencies, specialized United Nations agencies, international NGOs, foundations and large multinational corporations);
- Strengthen delivery systems (increase national capacity to deliver; revitalize procurement and supply-chain management);
- Create awareness, demand and appropriate use (global/regional advocacy, country-level advocacy and communication, promoting appropriate use of interventions);
- Incorporate malaria interventions in all sectors (health sector, environment, schools, regulatory institutions, agriculture, private sector, faith-based organization).

Malaria is a problem to which answers are available. The know-how, the plans and the technologies are all in place. And they are beginning to work. Just two things stand in the way of taking treatment and prevention measures to scale: a shortage of funds and a shortage of in-country capacity to put plans into action on the ground. This is the decade to take action: the time is now. WHO estimates that around USD 3.2 billion each year is required to finance effective malaria control worldwide. Governments in malaria-affected countries are committed in increasing their own

resources for malaria control, and multilateral and bilateral donors have helped to provide extra money. The Global Fund to Fight AIDS, Tuberculosis and Malaria is also an important international funding source. But still the funds available fall far short of what is needed.

PROGRESS WITH ROLL BACK MALARIA IN THE WHO EUROPEAN REGION

WHO European Region

Amongst all health priorities of the countries in the WHO European Region, the control of infectious diseases, including malaria, is one of the highest. The WHO Regional Office for Europe has committed itself to an intensive response to the burden of malaria, and had by 1999 developed a regional strategy to Roll Back Malaria in affected countries of the European Region. Its ultimate goal is to prevent mortality, reduce morbidity and minimize socio-economic losses provoked by the disease, through the progressive strengthening of capacities and capabilities of national health services and mobilizing community actions.

From 1995-2004, the reported number of malaria cases in the Region declined from 90,712 to 9,669. Although this represents an overall decrease in the number of cases, it is important to be realistic with respect to the actual figures of malaria in the Region. The magnitude of the malaria problem is thought to be greater than that which statistics indicate and cannot be reliably assessed on the basis of official data available. At present, malaria continues to pose a challenge in 8 out of the 52 Member States of the Region, namely Armenia, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan and Uzbekistan:

- Countries where malaria epidemics have been contained, but where malaria remains a major public health problem: Tajikistan and Turkey;
- Countries where malaria epidemics have been contained and the results achieved need to be consolidated further: Armenia, Azerbaijan, Georgia, Kyrgyzstan and Turkmenistan;
- Countries where sporadic cases are reported and the risk of further spread exists: Uzbekistan and the Russian Federation;
- Countries free from autochthonous malaria or cases rarely reported: All remaining countries

The international commitments and political attention that have been mobilized in recent years in malaria-affected countries of the Region are presently being translated into real actions. All malaria-affected countries of the Region, supported by WHO and RBM partners (USAID, CDC, ECHO, GAP, UNICEF, WFP, IFRC, MERLIN, ACTED and others), have managed to get their country RBM partnership movements off the ground and to take all possible measures aimed at containing malaria epidemics and reducing the malaria burden. The Global Fund has provided grants to Georgia, Uzbekistan, Kyrgyzstan and Tajikistan to support their national response to malaria over the next years (2004-2010).

The objectives of the present regional RBM programme are to prevent deaths due to malaria, to prevent large-scale malaria epidemics, to contain malaria outbreaks, to reduce further the incidence and prevalence of malaria, and to prevent the re-establishment of malaria transmission and maintain the malaria-free status in countries and territories, where malaria had been eliminated. Sustaining regional programme activities in the years ahead could reduce the impact of malaria to levels low enough to no longer represent a public health problem and interrupt *P. falciparum* transmission and eliminate it in Central Asia by 2010 and, finally, eliminate the disease in the WHO European Region by 2015.

The achievements of the regional and national RBM programmes are as follows:

1. RBM issues remain high on the WHO agenda throughout affected countries:
 - 1999: the development of the Regional Strategy to Roll Back Malaria and its successful implementation in malaria-affected countries of the Region;
 - 2002: the endorsement by all Member States of the Regional Resolution, "Scaling up the response to malaria in the WHO European Region";
 - 2005: the endorsement by all malaria-affected countries of the Regional Declaration, "The Move from Malaria Control to Elimination".
2. Strengthened national capacities and capabilities to cope with malaria:
 - Malaria programmes driven by knowledge and experience;
 - The formulation of goals, objectives and targets based on the commitments and capabilities of affected countries;
 - Core groups of adequately trained professionals with the necessary epidemiological expertise and competence set up and functional.
3. Broad partnership action with considerable financial assistance to Roll Back Malaria:
 - High level advocacy for actions against malaria;
 - RBM partnership movements functional at country and inter-country levels and RBM interventions coordinated among all partners concerned;
 - Increased assistance from GFATM for malaria control;
 - Cross-border collaboration strengthened between neighboring countries and regions.
4. Updated knowledge and enhanced skills on malaria and its control and prevention:
 - Decision-making based on updated knowledge of malaria and the planning of malaria control;
 - Training programmes constantly adapted to the appropriate implementing strategy;
 - A number of revised technical manuals, practical guidelines and innovative tools published and developed.
5. Improved capacities for disease management and prevention and epidemic control:
 - A system for easy access to early/reliable diagnosis and prompt/adequate treatment in malaria-affected areas established and functional in most malaria-affected countries;
 - In most situations, vector control guided by consideration of technical feasibility, operational applicability and effectiveness;
 - A rapid response capability to cope with emergency situations built in all epidemic-prone countries of the Region.
6. Strengthened epidemiological services and operational research capabilities:
 - Implementation of malaria programmes adjusted to epidemiological patterns, existing tools and resources available;
 - Reinforced surveillance mechanisms and information systems capable of planning, monitoring and evaluating control interventions;
 - Creation of a regional network of malaria-oriented research;
 - Research outcomes used to make malaria control more effective.
7. Increased community awareness and participation in malaria prevention:
 - Rapid assessments of practices of recognition and treatment of malaria and personal protection to develop effective IEC (Information, Education, Communication) strategy conducted;

- Strengthened community and family care and prevention practices through development of targeted IEC materials, awareness sessions, community support, knowledge building and mass media.

As a result of the successful implementation of the regional RBM strategy in malaria affected countries supported by strong political commitments to tackle the disease at national level, a high level of advocacy for action against malaria, a broad regional RBM partnership, along with considerable financial assistance (WHO headquarters and Europe, RBM partners), the reported number of malaria cases has been reduced by almost four-fold over the past six years.

The regional and national RBM programmes face many problems and constraints of technical, operational and managerial nature when implementing their activities. Major constraints include:

- The limited financial resources invested in malaria control by Governments;
- All national malaria control programmes in affected countries are chronically dependent on external support;
- A positive response from the international community only after malaria epidemics have occurred;
- Donor response rarely sustained longer than 3 years;
- Partner response has been traditionally weak in situations of small-scale outbreaks, occurrence of sporadic cases and high risk of malaria resurgence.

How to sustain the donor interest in situations, where epidemics of malaria have curbed, but still present a public health problem, and where there is a risk of explosive resurgence of malaria transmission, which could lead to outbreak situations; and how to attract the donor interest towards supporting the new malaria elimination initiative, are the two main challenges to roll back malaria in the WHO European Region.

The demonstrated feasibility of malaria elimination in the past, the visible impact of RBM interventions at present, the strong political commitments to achieve a greater impact on malaria situations at national level, and the availability of efficacious tools to control and eliminate malaria in the regional context, have created a unique opportunity and a solid evidence to move further from malaria control to elimination.

Armenia

In Armenia the malaria situation remained stable until 1994. In subsequent years a downgrading of malaria preventive services and a weakening of the malaria surveillance system resulted in a steady increase in the number of malaria cases, reaching 1156 by 1998. Over 98% of these cases were detected in the Masis district of the Ararat valley, an area bordering Turkey. In recent years, owing to epidemic control interventions, the number of autochthonous malaria cases has continued to decrease, dropping to 6 in 2004. Although numbers have been on the decline since then, the situation must be monitored closely, due to the existence of favourable conditions for malaria transmission. *An. maculipennis* serves as the main malaria vector in the country. In addition to *An. maculipennis*, other malaria vectors in the country include *An. sacharovi* and *An. claviger*. The appearance of *An. sacharovi* (the main vector in Transcaucasia) in the Ararat valley has created conditions more favourable for malaria transmission in the country. All *An. maculipennis* populations that were tested for resistance to cyfluthrin were found susceptible to this insecticide.

Armenia demonstrates a strong political commitment to Roll Back Malaria. Malaria control activities carried out at present emphasize the training of medical and laboratory staff at all levels in the diagnosis and treatment of malaria, epidemic preparedness and control, surveillance, health education, community mobilization and intersectoral collaboration. During the past years RBM-related 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, and the World Food Programme. In 2003, Armenia redefined and adjusted the present malaria control strategy, objectives and approaches, bearing in mind the results achieved to date,

the actual extent of the problem and potential threats in the country. A multi-sectoral approach brought together representatives from the Ministries of Health, Defence, National Security, Internal Affairs and Agriculture, who all contributed to a revised strategy and comprehensive plan for malaria control and elimination.

Azerbaijan

In Azerbaijan the malaria situation began to deteriorate rapidly after 1990, as a result of an almost complete cessation of malaria preventive interventions, hydro-engineering and melioration activities as well as intense population movements. 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 also highly malaria–endemic in the past. In 1997, the situation was aggravated as a result of mudslides throughout the Kura–Araksin and Lenkoran lowlands when mosquito-breeding sites increased dramatically. The highest morbidity rates were reported in several districts of Azerbaijan bordering Iran, Georgia and the Russian Federation. Over the course of 1997–2003, as a result of large–scale epidemic control interventions, the malaria situation in the country continued to improve, with only 386 cases reported in 2004. Malaria vectors in Azerbaijan comprise *An. maculipennis* (the area of the Big and Small Caucasus), *An. sacharovi* (Kura–Araksin and Lenkoran lowlands) and *An. melanoon* (Lenkoran lowland).

Azerbaijan demonstrates a strong political commitment to the regional Roll Back Malaria movement. In 1998 a National Malaria Control Strategy was developed with assistance provided by WHO/Europe, and it has been successfully implemented in the country. At present, malaria control activities have focused on integrated vector control measures (indoor residual spraying, environmental management, biological means of control), disease management, training, surveillance, public health education and community mobilization. Intersectoral collaboration between the Ministry of Health and other entities is essential to the consolidation of the progress made to date. Agriculture and irrigation in particular are two major issues that must be addressed to minimize vector breeding grounds. At present, RBM activities are supported by the Ministry of Health and WHO.

Georgia

In Georgia the malaria situation began to deteriorate in the mid 1990s as a result of a drastic reduction in the activities aimed at the prevention of malaria transmission and the intensification of population movements. The first three cases of local malaria transmission were detected in 1996 among residents of a district bordering Azerbaijan. In subsequent years the number of malaria cases continued to increase, reaching 473 in 2002. Between 1998 and 2002, the number of reported malaria cases increased by more than 30 fold. During this period the first cases of autochthonous malaria were reported in the western part of Georgia. In 2004 the country reported 254 autochthonous cases, an 18% reduction compared to the previous year. Conditions favourable for malaria transmission exist in an area covering nearly 52% of the country, and where 93% of the total population lives. 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 more than 68% of the total population resides and the transmission season may last more than 150 days. The main and secondary vectors there include *An. maculipennis*, *An. superpictus*, *An. sacharovi*, *An. atroparvus*, *An. hyrcanus*, *An. claviger* and *An. melanoon*. Other territories, which are home to 18% of the total population, face a malaria season from 90 to 120 days, and have a lower degree of risk of resurgence of malaria. The vectors there include *An. maculipennis*, *An. superpictus*, *An. claviger* and *An. plumbeus*.

Political commitment to the principles of Roll Back Malaria continues to grow in Georgia. In light of the heightened risk of malaria, WHO has increased its efforts towards containing outbreaks and their spread across the territory of the country. The RBM country-level movement is presently supported by the Ministry of Health, the WHO Regional Office for Europe and the Global Fund. The

Global Fund has provided Georgia with a grant of more than USD 800,000 to support the country's national response to malaria over three years (2004-2006), and the country along with the RBM programme of WHO/Europe is to develop a proposal for the extension of the ongoing Global Fund malaria control project. Interventions carried out include disease management and prevention, training, surveillance, epidemic control, community mobilization, health education and operational research.

Turkey

In Turkey the malaria situation remains serious in terms of its impact on the health of the population and the socio-economic development. Within the country, over 15 million people, or 23% of the total population, reside in areas where malaria remains endemic. Moreover, a large proportion of the total population reside in areas where the risk of an explosive resumption of malaria transmission, leading to outbreak situations, remains high. Despite the fact that only 5,252 cases were reported in 2004, it is generally accepted that the actual magnitude of the malaria problem in Turkey is greater than that reported, especially in south-eastern Anatolia, where the incidence of malaria is the highest in the country. Endemic malaria with a parasite index of above 10% was found there. Thus, despite the significant decrease in malaria morbidity over the past years, the malaria situation, as we have learned by experience, may be subject to sudden and very negative changes. In light of the country's overall malaria potential, it is vitally important to consider the intensification of malaria surveillance activities at the periphery, especially in south-eastern Anatolia, where the malaria situation remains serious. There are thirteen *Anopheles* species recorded in Turkey. *An. sacharovi* and *An. superpictus* are the principal malaria vectors, while *An. maculipennis*, *An. pulcherimus*, *An. algeriensis*, *An. claviger*, *An. hyrcanus*, *An. marteri*, *An. multicolour*, *An. plumbeus* and *An. sergenti* may be considered secondary or possible vectors of malaria in the country.

Turkey demonstrates political commitment to the RBM movement. Malaria control activities carried out from 2000 have included capacity building, disease management and prevention, operational research including drug efficacy monitoring trials, malaria surveillance, health education and community participation. At present the Ministry of Health and other governmental entities (Ministry of Tourism, State Airports Authority Directorate General and Municipalities), the WHO Regional Office for Europe and GAP collaborate on malaria control and prevention.

Kazakhstan

In Kazakhstan an increase in the number of imported malaria cases was registered from 1990–1997, and the first malaria cases due to local transmission were reported in 1992. During 2000–2003, 9 cases of autochthonous malaria were registered within the area of southern Kazakhstan and Almaty where there had been no reported cases of autochthonous malaria in recent years (2002–2004). The ecological and climatic conditions within most regions of the country could lead towards a resurgence of malaria transmission following its importation. The differences in eco-climatic settings, types of landscape, vector species distribution, and occupational and migration population patterns define the heterogeneity of malariogenic potential of the country. The highest risk of resumption of malaria transmission is in some parts of the Almaty, Jambyl, South-, West- and East-Kazakhstan regions, as well as in the cities of Almaty, Astana and Karaganda. *An. messeae*, the most common malaria vector in Kazakhstan, is found throughout most of the country. Studies on this vector's resistance to different insecticides have shown that resistance to DDT was highest (up to 77%) in the western part and nearly absent in the eastern part of the country. Resistance to malathion and fenitrothion was virtually absent in all areas under study, as was resistance detected to synthetic pyrethroids, including deltamethrin and cyfluthrin.

In March 2004 the Ministry of Health of Kazakhstan issued a national decree aimed at strengthening malaria surveillance in the country, and steps have been taken to reinforce surveillance. At present, malaria-related activities in the country include disease management and prevention, training, surveillance and operational research. The Ministry of Health, WHO and USAID provide support for this.

Kyrgyzstan

As a result of the importation of malaria by ex-military personnel upon their return from Afghanistan, autochthonous malaria was reported in Kyrgyzstan from 1986 onwards. In 1986-1987, 24 cases of autochthonous malaria were detected. In 1988, there were 21 cases due to local transmission, with 11 reported in the Batken district bordering Tajikistan and Uzbekistan. In the years to follow, only imported cases were reported in the country. In 1996, after a long break in local transmission, the first case of autochthonous malaria was registered in the Panfilov district. From then on, there has been a rise in the number of cases due to local transmission. In 2001, 15 autochthonous cases of malaria were reported in the country. In 2002, the explosive resumption of malaria transmission produced an epidemic situation with an incidence much greater than that reported in the past years in Kyrgyzstan, and a total of 2,267 autochthonous *P. vivax* cases were reported in the south-western regions of the country, including Batken, Osh and Jalal-Abad. The explosive resumption of malaria transmission in Kyrgyzstan was a result of immigration of a number of infected people from Tajikistan into the Batken region where the *Anopheles* vector exists and conditions for malaria transmission are very favourable. In 2004, as a result of the application of epidemic control measures, there was a significant decrease in the reported number of autochthonous malaria cases (91). However, in 2004 the first autochthonous case of *P. falciparum* malaria was reported in the Aravan District of the southern part of Kyrgyzstan, in an area bordering Uzbekistan. Malaria vectors in the country include *An. pulcherimus*, *An. superpictus*, *An. hyrcanus*, *An. martinus*, *An. claviger* and *An. messeae*. Studies on vector resistance to different insecticides have revealed that all the above-mentioned species are susceptible to DDT, fenitrothion, cyfluthrin, deltamethrin, malathion, lambda-cyhalothrin and propoxur.

Kyrgyzstan shows a very strong political commitment to controlling the malaria situation. In March 2003 a Regional Partnership Meeting funded by USAID/CAR and organized in collaboration with the WHO Regional Office for Europe and CDC/CAR was held in Bishkek. Health officials from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan participated in the meeting. In response to the malaria epidemic in 2002, the WHO Regional Office for Europe opened a malaria field office in Osh, Batken Province (which is still functional), one of the three regions most affected by malaria. The WHO Regional Office for Europe and MERLIN has assisted the country in the procurement of drugs, insecticides, and microscopes, and RBM programme of WHO/Europe has supported vector control activities, including indoor residual spraying and biological control. Malaria surveillance and operational studies, including drug efficacy monitoring, have also been conducted from the Osh field office. Kyrgyzstan is a major beneficiary of assistance within the framework of a sub-regional malaria control project funded by USAID/CAR and executed by the WHO Regional Office for Europe. In 2005 the WHO Regional Office for Europe assisted Kyrgyzstan in drawing up a malaria project proposal, which was submitted to the Global Fund, and a grant of USD 3,426,125 to support country-level malaria control activities over five years (2006-2010) was subsequently approved by the Global Fund.

Tajikistan

The number of malaria cases reported in Tajikistan peaked in 1997, when nearly 30,000 cases were registered. The deterioration of the malaria situation in the country in the 1990s was linked to armed conflict, mass population movement across zones of intense transmission of malaria in Afghanistan, where malaria is endemic, and the disruption of public health care services and vector control activities. Noticeable changes in agricultural practices, particularly the increase in the cultivation of rice, have led to an increase in vector breeding grounds. Despite an 80% reduction in the reported cases since that time the malaria situation remains serious in the country. The remaining problem of *P. falciparum* malaria in the southern part of the country is a matter of particular concern. A total of 3 588 cases of malaria were reported in the country in 2004. Prevalence and PCR surveys recently conducted in the southern part of Tajikistan bordering Afghanistan have shown that the burden of malaria in the Khatlon Region (the most affected area of the WHO European Region),

with its total population of nearly 2.2 million people, may be estimated at 100,000-150,000 malaria-infected carriers, with the proportions of *P. falciparum* malaria at more than 10%. The proportion of asymptomatic *P. vivax* and *P. falciparum* carriers remains high. Malaria vectors in Tajikistan include *An. superpictus*, *An. pulcherimus*, *An. maculipennis*, *An. hyrcanus* and *An. martinius*. The results of studies on vector resistance to insecticides (DDT, fenitrothion, cyfluthrin and deltamethrin) showed that all vectors were susceptible to the above-mentioned insecticides.

Tajikistan traditionally shows a very strong political commitment to Roll Back Malaria, and national authorities work closely with the WHO Regional Office for Europe in areas of disease management, vector control, training, surveillance, operational research, health education and community participation. Roll Back Malaria activities were carried out in cooperation with the Ministry of Health and with the support of WHO, USAID, CDC, ECHO, the Governments of Norway and Italy, MERLIN, ACTED, UNICEF, WFP and other partners. A WHO Roll Back Malaria Field Office (funded by WHO/Europe and USAID/CAR), which was opened in 2001 is still functional in Tajikistan. Within the framework of a sub-regional malaria control project funded by USAID CAR and executed by the WHO Regional Office for Europe, Tajikistan is a major beneficiary and receives technical assistance, training for malaria specialists, support in disease management and prevention as well as other forms of assistance. 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 by the Global Fund.

Turkmenistan

Although malaria was eliminated in Turkmenistan in 1960, sporadic cases have occasionally been reported from the country. By 1998, the malaria situation had taken a drastic turn for the worse and 108 malaria cases were detected within the Gushgin etrap of Maryi veloyat. To prevent further spread of malaria throughout the etrap area, malaria programme personnel carried out seasonal chemoprophylaxis with chloroquine and indoor residual spraying. These interventions allowed for a significant decrease in malaria morbidity within the focus area. Presumably, local malaria transmission appeared as a result of malaria importation by mosquitoes flying in from bordering Afghanistan. Sporadic cases of autochthonous malaria are reported every year, and 44 cases of local malaria cases were registered in the country during 2000-2003. In 2004 only 3 autochthonous cases of *P. vivax* malaria were reported in the country. Three principal malaria vectors are found in Turkmenistan: *An. superpictus*, *An. pulcherimus* and *An. maculipennis*. Monitoring of *An. Superpictus*' susceptibility to cyfluthrin, lambda-cyhalothrine, DDT and propoxur in Lebap, Maryi, Ahal, Dashogus and Balkan veloyats has revealed that all the above-named insecticides remain highly effective for indoor residual spraying.

At present, RBM-related activities in Turkmenistan include disease management and prevention, training, surveillance, epidemic control and community involvement. The Ministry of Health, WHO and USAID provide support for this.

Uzbekistan

Taking into account the grave malaria situation in neighbouring Tajikistan and Afghanistan, along with the present day exacerbation of the situation in Kyrgyzstan, there is a very real threat that malaria may assume larger proportions in Uzbekistan. In this regard, the Ministry of Health of Uzbekistan initiated and carried out a number of activities aimed at the intensification of malaria surveillance. The number of imported malaria cases has continued to increase from 21 cases in 1994 to 80 cases in 2000. In 1999, due to a steady increase in imported malaria and the presence of conditions favourable for malaria transmission, the first autochthonous cases of malaria, 7 in all, were registered. A more than five-fold increase in the number of autochthonous malaria cases was witnessed during 1999-2000. In 2001-2003, 225 cases were registered, 53 of which were due to local transmission. In 2004 31 autochthonous cases of *P. vivax* malaria were reported in the country. All

reported cases occurred in the Surkhandarinskaya region which borders Tajikistan and Afghanistan. To intensify anti-malarial interventions in these border areas, malaria control services were reinforced and made operational. There are seven *Anopheles* species registered within the territory of Uzbekistan: *An. pulcherimus*, *An. superpictus*, *An. maculipennis*, *An. hyrcanus*, *An. martinus*, *An. claviger*, and *An. algeriensis*. The monitoring of vector susceptibility to insecticides has revealed that only *An. superpictus* populations in Fergana were resistant to malathion, fenitrothion, bendiokarb and propoxur. All other vectors remain susceptible to nearly all commonly used insecticides.

Uzbekistan demonstrates a strong political commitment to the Roll Back Malaria movement. Particular attention is paid to malaria surveillance. Epidemiological investigations of all reported cases of malaria are carried out systematically, and all malaria cases are correctly treated. Furthermore, biological means of vector control, including the use of larvae-consuming *Gambusia* fish, are being used in selected areas of the country. The strengthening of institutional capacities also remains a country priority. A national malaria surveillance programme for 2002-2004 was drawn up in collaboration with the WHO Regional Office for Europe and is presently being implemented. The programme focuses on disease management and prevention, as well as epidemic preparedness and control. In 2002-2005 RBM activities supported by the Ministry of Health, the WHO Regional Office for Europe, USAID/CAR, MERLIN and ACTED included strengthening of malaria surveillance, training of general and specialized health personnel, disease management and prevention and health education. Uzbekistan receives assistance in coordinating and synchronizing malaria control and preventive activities within its border areas. With a Global Fund grant of more than USD 2.5 million over five years (2004-2008), the country will strengthen malaria control and prevention in the country.

Bulgaria

After malaria eradication in Bulgaria in 1965 a total number of 2955 malaria cases were registered in the country (1966-2004). Among them, 2905 (98.3%) were imported into Bulgaria from endemic countries and the rest, 50 (1.7%), were relapsing and/or autochthonous cases. Fourteen cases with *P. falciparum* malaria resulted in death. During the past decade (1995-2004), as a result of socio-economical changes in the country, although malaria remained the major disease among other imported infectious and parasitic diseases, the new trends in the epidemiological characteristics of malaria were revealed. A typical feature of the previous periods was the predominating import of vivax malaria whereas during the past ten years *P. falciparum* accounted for 71.54% of all imported cases. While in the past malaria cases came mainly from Asia, nowadays they are mostly imported from Africa, 81.47%, followed by Asia, 18.53%. A great number of imported cases (66.41%) were diagnosed during the potential season of malaria transmission in Bulgaria (April - October). The 18 autochthonous cases of vivax malaria, which were recorded in 1995-1996 in the region of the town of Sandanski (for the first time after malaria eradication) clearly indicate a genuine risk of re-establishment of malaria transmission.

The malariogenic potential of the territory of the country remains high. The country can be divided into three strata: areas with high, medium and low risk. Its receptivity is presently characterized by increased density of *Anopheles* populations, global warming (possible extension of the period of effective mosquitoes' infection and possible extension of the malaria transmission season), favourable climatic conditions for malaria transmission and a lack of up-dated information on malaria vectors. Vulnerability is also high because of the presence of some unfavourable factors: continuous importation of malaria; increased population migration, including from and to Turkey (an increase in the number of immigrants who are passing through Bulgaria on their way to western Europe) as well as intensified tourism and trade.

Based on the evaluation of the possible hazard of malaria reintroduction, the Ministry of Health carries out a national malaria surveillance programme aiming at monitoring importation of malaria, and prevention of re-introduction of autochthonous cases. The control of malaria includes a system of complex measures including monitoring of population groups at risk, diagnosis, treatment and prevention of malaria and epidemic preparedness and response activities.

The Republic of Moldova

Since 1960 autochthonous malaria cases have not been reported in the country, except for a small outbreak of 14 cases of *P. malariae* due to blood transfusion in 1974 and two secondary cases of *P. vivax* malaria in 1996.

In view of the importation of malaria and the availability of malaria vectors in the country, however, 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.

The Russian Federation

From 2001 to 2004, the number of imported and autochthonous cases of malaria continued to drop, reaching 324 and 58 respectively. In 2004 5 deaths due to imported malaria were reported in the Russian Federation. During the last 6 years (2000-2005) the number of cases imported into the country from the Newly Independent States, such as Tajikistan and Azerbaijan has been on the decline. Over the past years *P. vivax* was the predominant species amongst imported malaria, and exclusively *P. vivax* malaria was transmitted in the country. Between 2000 and 2002 the number of autochthonous *P. vivax* cases continued to rise in the Moscow Region and Moscow from 8 to 121, however, from 2003 to 2005 the number declined from 61 to 34 due to unfavorable conditions for malaria transmission. In recent years cases of autochthonous malaria have been reported in the western and south-western parts of the Russian Federation. In view of the continuing importation of malaria, it is crucial to pay special attention to epidemiological surveillance of all imported and autochthonous cases.

PROGRESS WITH ROLL BACK MALARIA IN THE WHO EASTERN MEDITERRANEAN REGION

WHO Eastern Mediterranean Region

50% of the population in this Region live in areas at risk of malaria transmission with 15 million estimated clinical cases and 59,000 estimated deaths due to malaria per year. The majority of imported cases in the malaria free countries (Bahrain, Jordan, Kuwait, Lebanon, Libyan Jamahiriya, Palestine, Qatar, Tunisia, United Arab Emirates (UAE)) or countries with a very limited number of local malaria transmission (Egypt, Morocco, Oman and Syrian Arab Republic) are imported from the Indian subcontinent, especially Pakistan. In 2004, Morocco and Syria reported only one autochthonous case. In countries with low to moderate endemicity (Iran, Iraq and Saudi Arabia), there is a significant reduction in the number of reported malaria cases. In comparison with 2003, there is a reduction in the number of malaria cases from countries with intense malaria transmission (Afghanistan, Pakistan, Djibouti, Somalia, Sudan and Yemen) which are far from the number of estimated cases. This difference shows the importance of finding a methodology for proper estimation of the malaria burden in this group. The malaria burden in Pakistan is still very high and for the first time the Eastern Mediterranean Region has received data on clinically diagnosed cases as high as 1,831,631. From the available data, it is difficult to determine how much the regional burden of malaria has changed, as the health information system in high-burden countries is weak. However, success stories from some countries/areas show that successful control has had an impact on the malaria disease burden.

Yemen targeted malaria elimination in Socotra Island and intensified control in Tihama area with good progress in areas under RBM support. In Sudan, in Khartoum and Gezira, the Malaria Free Initiative's annual parasite prevalence and facility surveys indicate a considerable increase in the coverage of main interventions and a significant reduction of the malaria burden in these two states. Morocco, Egypt, Oman, UAE and Syria were malaria endemic in 1997, but by 2004 these countries had eliminated malaria (only one autochthonous case reported from Syria and one from Morocco). Iran, Iraq and Saudi Arabia are embarking for elimination. WHO will continue to support assessment of the feasibility of elimination, development strategy and plan of action, implementation of malaria elimination programmes and verification of malaria free status. WHO will continue to support sub-regional projects for malaria elimination, including Malaria Free North Africa, Malaria Free Arabian Peninsula, Malaria elimination in Iran and Iraq and maintenance and expansion of the Khartoum and Gezira Malaria Free Initiative.

Elimination of malaria will help realizing the wide future expectations in terms of industry, trade, tourism in many parts of the region, including the Arabian Peninsula. Other vector-borne diseases, such as leishmaniasis, filariasis, rift valley fever and dengue fever can be prevented through anti-mosquito control measures for malaria. Strengthening the malaria programmes for elimination will strengthen the health system and lead to high coverage by primary health centres, good laboratories and quality assurance and strong surveillance systems. The geographic information system (GIS) that will be used for malaria will be shared with other diseases to implement multi-sectoral programmes. RBM/Eastern Mediterranean is working towards establishing a strong partnership with countries and other partners for sustained support to the programme in Yemen.

Together with WHO headquarters, the Regional Office is working to develop a strategy for certification/validation of malaria free status/malaria elimination. UAE finalized the conduction of the 2 sero-epidemiological surveys. A consultation on the process is planned for end 2005 or early 2006 in collaboration with CDC, GCC and the WHO Regional Office for Europe. Limited human resources for vector control, microscopy, planning and evaluation of malaria elimination activities; limited collaboration/coordination of activities among the bordering countries; lack of proper collaboration with other relevant sectors, including agriculture, education and the private sector; resistance to drugs and insecticides, and weak monitoring and evaluation and epidemic preparedness are the main challenges for malaria elimination in the Eastern Mediterranean Member States.

Strengthening malaria lab diagnosis is one of the main objectives of RBM. To achieve this objective the Regional Office supported courses on malaria microscopy in Afghanistan and Somalia and an evaluation and training exercise for malaria microscopy in Sudan. The first course on quality assurance of malaria microscopy will be held in mid-2006. We have supported sentinel sites for drug efficacy monitoring in all Member States where *falciparum* malaria is endemic. At this stage, 4 sites in Afghanistan, 5 in Iran, 4 in Pakistan, 5 in Saudi Arabia, 4 in Yemen, 3 in Somalia and 5 in Sudan are functioning. The results of all of these studies show that there is a high prevalence of resistance of *P. falciparum* to chloroquine (CQ). Based on this evidences Afghanistan, Iran, Somalia and Sudan have updated their treatment guidelines. Integrated vector management is a crucial element of the malaria control programme. In 2004, a vector control needs assessment tool was developed, and an inter-sectoral coordination mechanism for integrated vector management implementation was initiated in Iran, Egypt, Sudan, Morocco and Yemen. DDT reporting on use, manufacturing, storage, transportation was piloted in 4 countries of the Region (Djibouti, Sudan, Morocco and Oman), and a regional proposal was approved, initially for \$650,000. In order to strengthen national capacities for malaria control in Member States, we have supported several courses, including two courses on planning and management (one in English and one in Persian), a course on medical entomology and a course on pesticide management. The Regional Office supported the WHO collaborating centre in Cairo by a 2-months fellowship on molecular entomology. The Regional Office developed draft modules on elimination of residual foci and prevention of malaria reintroduction. We supported the coordination of cross-border malaria control activities by holding a cross-border malaria workshop between Iraq, Syria and Turkey (Aleppo, Syrian Arab Republic, 20–22 April 2004), and a second cross-border malaria meeting for Afghanistan, the Islamic Republic of Iran and Pakistan (Peshawar, Pakistan, 30 August to 1 September 2004). To provide quality evidence for malaria control programmes and to support capacity building for operational research, WHO supported 7 and 10 TDR proposals in the field of malaria and vector control in 2004 and 2005 respectively.

Islamic Republic of Iran

In Iran, the total population at risk of malaria is 2,714,648 (4% of the total population) mainly living in southeast provinces, namely Sistan & Baluchestan, Kerman and Hormozgan. The population of highly prioritized areas is about 1,140,000 (1.7%) with annual parasite incidence more than 6 per 1000. In 2004, the total reported number of malaria cases was 13,821 out of which 7602 were autochthonous cases. *Falciparum* and mixed malaria represented only 10% of the total reported number of malaria cases.

Results of therapeutic efficacy monitoring of CQ for uncomplicated *falciparum* malaria in 5 sentinel sites showed that more than 78% of *falciparum* cases are resistant to CQ. Based on these results national treatment guidelines were updated and ACTs were adopted as first line in border areas. CQ and SP will be the first line in other parts of the country. Coartem will be the second line. The recent results of drug efficacy studies on a combination of CQ+SP show that this combination is 100% effective.

In 2004, a feasibility study on malaria elimination was made, and based on that a 5 year strategic plan for malaria elimination in three stages was developed, aiming at providing additional input to malaria control by allocation of funds, sanctioning posts, provision of vector control equipment (sprayer pumps, vehicle-mounted space sprayers/blowers), increased number of passive posts in border areas, revision of spraying schedules in accordance with the eco-epidemiological situation and increased production/use of local Bti .

The malaria elimination strategy will aim at the elimination of *P.falciparum* malaria in all areas of its occurrence. 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 malaria elimination strategy, the objective will be a drastic reduction of local transmission of *P.vivax* in the residual active malaria foci. At the end of the third stage the majority of cases could be introduced cases of malaria and only 500-700 indigenous cases in residual malaria foci.

The Syrian Arab Republic

Up until the 1950s, malaria was endemic throughout the country, except in deserts and mountainous areas above 1100 m; both *P.vivax* and *P. falciparum* were present with a predominance of the latter. *A.sacharovi* and *A.claviger* are primary and secondary vectors respectively. The malaria eradication programme was started in 1956 and led to an interruption of transmission of *P. falciparum* during the 1960s, in the course of a campaign using indoor DDT spraying, in collaboration with WHO. However, transmission of *P.vivax* continued at varying degrees, mostly along the borders of Turkey and Iraq. After the 1990s, the maximum number of indigenous malaria cases was recorded in 1993 (966 cases) and they were recorded in two provinces (Aleppo and Al Hasakeh). An outbreak of 63 local cases occurred in 2001 mainly in the Ras El Ain district (55 cases) and the Al Malkeih district (8 cases) of the Al Hassakeh province bordering Turkey. In 2004, only one indigenous malaria case was reported in the Al Malkeih district.

The objective of the malaria control programme in Syria is to eliminate malaria and prevent its reintroduction through early passive case detection, free of charge treatment in specialized centres, vector control by using IRS, larval control and ITNs, inter-sectoral coordination and IEC. In 2004 a cross border meeting between Syria, Turkey and Iraq was held in Aleppo to strengthen border coordination mainly with Turkey. This year, four thousands ITNs were distributed in 31 villages of the Al Malkiyeh and Ras AL Ein provinces.

The principal and underlying challenge is that malaria is neither perceived as a health problem nor a priority. Insufficient proper equipments and well trained technical personnel, lack of community awareness about malaria control, lack of updated entomological and vector control information

due to insufficient equipment and expertise, and weak inter-sectoral cooperation and coordination are among the challenges that the malaria control programme is to overcome.

Afghanistan

Malaria transmission in Afghanistan is seasonal and unstable. The duration and intensity of malaria transmission are dependent on altitude, temperature and rainfall. The highest malaria transmission intensity is observed in altitudes <1500m in rice growing areas of eastern and north eastern Afghanistan. Population movements, low socioeconomic status of the people, breakdown of the health infrastructure and the national control programme, appearance and spread of drug resistance and poor access to malaria treatment are the main reasons for an increased risk of malaria transmission, which have put approximately 60% of Afghanistan's population (15 million) at risk of malaria. In recent years, a change in malaria epidemiology is observed. More than 50% of the total annually recorded cases are reported from the north eastern provinces neighbouring Tajikistan, where the proportion of *P. falciparum* has increased. CQ resistance is >80% and there was a *P.falciparum* outbreak at an altitude >2000m.

A new structure for the National Malaria and Leishmaniasis Control Programme (NMLCP) was recently approved by the Ministry of Public Health. The programme is set to be vertical at the central and provincial levels, fully integrated with primary health care structures at facility level. In April 2005, RBM partners developed a national strategic plan for malaria control (2006-2010). The goal of the NMLCP is to contribute to the improvement of the health status in Afghanistan through prevention of morbidity and mortality associated with malaria. Programme objectives are to reduce malaria morbidity by 50% by the year 2010, to reduce malaria mortality by 80% by the year 2010 and to strengthen the health system and malaria control programme. Priorities for the NMLCP are to carry out comprehensive needs assessments for capacity development of the evolving NMLCP, strengthen and sustain human resources, institutional capacity and community capability in order to achieve RBM objectives and mobilize resources for and implement the multi-year RBM strategic plan.

Clinical diagnosis alone is practiced at health post & basic health centre levels. Lab diagnosis is only available at community and district health levels. A quality assurance mechanism has been planned. Rapid diagnostic tests are proposed only for use in emergency situations. First line treatment for laboratory confirmed falciparum cases is AS+SP and second line treatment for laboratory confirmed *falciparum* cases will be Quinine. Clinically diagnosed cases will be treated with SP+CQ. The treatment for confirmed vivax malaria is CQ. Severe cases are to be treated with Quinine.

The development of a national ITN strategy for Afghanistan, the formation of a national ITN steering committee to oversee ITN issues (Ministry of Health, WHO, UNICEF, HNI, PSI and USAID), the distribution of 600,000 ITNs over the past 5 years and the adoption of a social mobilization strategy based on COMBI approach, and the development of a COMBI plan to promote appropriate usage of ITNs are the main achievements of the country's prevention strategies. According to the multi-year strategic plan, indoor residual spraying and insecticide treated materials other than ITNs (Chadors, blankets, etc) can be considered as control of focal epidemics when applicable. The Ministry of Public Health, in collaboration with WHO and the Louis Pasteur Institute of Iran, has planned to initiate entomological surveillance during 2005-2006. In 2006, the national integrated vector management strategic plan will be developed. The main human resource development activities in 2004-2005 comprised the following: a two-months fellowship training course for 27 key staff on planning and management of malaria control programmes, a one-month fellowship training course for 6 staff from the malaria institute on epidemiology, biostatistics and surveillance, a course for 36 senior physicians and university teachers on management of severe malaria, training of seven laboratory master trainers, training of seven nationals as facilitators for the COMBI plan, and development and printing of standardized learning materials in two local languages. The provision of transportation means to the NMLCP, including 14 cars, 30 motorbikes and 250 bicycles, functional rehabilitation of eight regional malaria reference centres (MRCs), provision of computers and teaching aids and financial support for 24 NMLCP key staff, represent the main activities to strengthen the malaria control programme at national and province levels. To strengthen monitoring and evaluation as well as

malaria surveillance, the Ministry of Public Health nominated three focal points; the NMLCP developed the malaria registration and reporting format, indicators as well as checklists for integrated lab supervision.

USAID is the major funding agency for malaria control activities in Afghanistan. Qatar Charitable Society (QCS) has provided transportation means for the NMLCP. Funds from GFATM R2 supported the capacity building of the Ministry of Public Health to combat TB, Malaria and HIV/AIDS. Afghanistan's Round 5 malaria proposal (US\$ 17 million) was recommended for funding (pending availability of funds). ECHO supported the risk mapping project and the EC funded the ITN project.

Confusion over the integration of a historically vertical programme into community-based and district health care services, coordination of different implementers, low incentives for staff, limited mobility of women (as health workers, household decision makers, and patients), limited data for planning and monitoring purposes, limited knowledge and understanding of malaria among some sections of the population, low purchasing power among some population groups with regard to ITNs, absence of private sector participation to expand ITN sales, ongoing insecurity and political instability in some areas are the main challenges preventing a rapid scale-up of malaria control interventions.

RESEARCH AND STRATEGY DEVELOPMENT

Review of malaria vectors and their biology in countries of the WHO European Region

21 *Anopheles* species are listed in the Newly Independent States: *An. algeriensis*, *An. artemievi*, *An. atroparvus*, *An. barianensis*, *An. beklemishevi*, *An. claviger*, *An. daciae*, *An. hyrcanus*, *An. lindesayi*, *An. maculipennis*, *An. marteri sogdianus*, *An. martinius*, *An. melanoon*, *An. messeae*, *An. plumbeus*, *An. sacharovi*, *An. sinensis*, *An. subalpinus*, *An. multicolor*, *An. pulcherimus* and *An. superpictus*.

The principal malaria vectors (5) include *An. maculipennis*, *An. messeae*, *An. sacharovi*, *An. pulcherimus* and *An. superpictus*, and the secondary vectors (4) are *An. claviger*, *An. hyrcanus*, *An. martinius* and *An. plumbeus*. For 5 species, namely *An. artemievi*, *An. melanoon*, *An. subalpinus*, *An. multicolor* and *An. Plumbeus*, the role as malaria vectors has not yet been confirmed.

Indoor residual spraying remains the main vector control approach recommended in affected areas where the malaria incidence is high, autochthonous *P. falciparum* malaria is reported, declining efficacy of antimalarial drugs is observed, outbreaks and epidemics of malaria take place, and in project development sites. Larvivorous fish are used to control malaria in all malaria-affected countries of the Region. Each national programme in the Region reviews its vector control activities to consider alternative vector control options, in order to apply an integrated approach towards cost-effective and sustainable vector control. The use of predatory fish and impregnated mosquito nets are combined with indoor residual spraying in some areas of Tajikistan, Kyrgyzstan and Uzbekistan, while the latter is applied successfully along with environmental management measures in Azerbaijan. Impregnated mosquito nets are being promoted, along with the use of larvivorous fish (in rice fields) in malaria settings against outdoor-resting *Anopheles* species in Central Asia.

The objectives of the operational research should be closely tied to the particular situation and problems identified within a particular country or a number of countries. In the WHO European Region vector biology and control research is of particular interest, which has been neglected, but is presently being reconsidered in order to make vector control more effective. The following studies may be considered: species identification and vector incrimination, species complexes and the role of siblings' species in malaria transmission, biology of vectors, vector resistance and integration of vector control strategies in different malaria settings.

Analysis of different Anopheles species in the WHO European Region using cytogenetical, molecular and genetic techniques

The studies include the analysis of genetic structure of different *Anopheles* species in Central Asia. The method of random amplified polymorphic DNA (RAPD) was used for genome testing and estimation of population genome structure. Seven populations of *An. superpictus* and two populations of *An. pulcherimus* exhibit significant heterogeneity across their population range in countries of Central Asia. Genetic linkage distances were calculated using the 15 RAPD-locus analysis. Genetic differences between populations agree with their geographic distribution. In Central Asia and Kazakhstan, *An. maculipennis*, *An. martinius* and *An. messeae* are ecologically isolated, and the limits of their distribution within Uzbekistan, Tajikistan, Kyrgyzstan and Kazakhstan are poorly known. The morphological identification of these species is undeveloped.

The elaboration of molecular diagnostic methodology may help to define the current ecology, distribution and epidemiological significance of these species. Comparison of the ITS2 structure of *An. maculipennis* populations and the sequences in GeneBank has shown that *An. maculipennis* is the predominant vector in the northern part of Tajikistan. This species was found in this part of Tajikistan for the first time (70). By means of PCR, the molecular diagnostics of *An. maculipennis*, *An. messeae*, *An. beklemishevi*, *An. claviger* and *An. plumbeus* have been worked out. The ITS2 regions of *An. beklemishevi* and *An. plumbeus* were sequenced for the first time. Molecular and cytogenetic data from Central Asia suggest a new species of *An. artemievi*, which is closely allied to *An. messeae*, in the *An. maculipennis* species complex. This species was found in the territories of the southern part of Kyrgyzstan (where malaria epidemics occurred during 2002-2003) and the northern part of Tajikistan (where malaria is well established).

The nucleotide structure of the complete ITS2 region along with part of the 5.8S and 28S rDNA sequences and the mitochondrial cytochrome oxidase were determined in the closely related species *An. martinius* and *An. artemievi*. Significant distinctions of nucleotide structure of ITS2 and COI sequences in three sibling species of the complex *maculipennis* (*An. martinius*, *An. artemievi* and *An. maculipennis* s. str.) were revealed. The studied regions of the nuclear and cytoplasmic genomes can be used as genetic markers for diagnostics of sibling species of the existing and possible malaria vectors in Central Asia.

Further research on the species composition of malaria mosquitoes may contribute to a better understanding of malaria vector populations and their epidemiological role.

PCR detection and identification of genetic differences in malaria parasites infecting human subjects in Central Asia

Polymerase chain reaction (PCR) assays are the most sensitive and specific methods to detect malaria parasites, and have acknowledged value in research settings. In a study conducted in malaria affected areas of Central Asia, 500 blood samples from patients with clinically suspected malaria were tested by PCR-hybridization assay and compared with the results of light microscopy. By light microscopy, *P. vivax* and *P. falciparum* were detected in 64 specimens (12.8%) while by PCR assay *P. vivax* and *P. falciparum* parasites were found in 186 specimens (37.2%). This study shows that the reservoir of infection in the central Asian region is much larger than what the official data available indicates. Approximately 55% of 250 blood samples taken in an endemic setting in Tajikistan were detected as malaria positive by PCR assay while only 10% of them had been detected as true cases of malaria by light microscopy. In Kyrgyzstan, faced with the recent return of malaria, only 20% and 5% of 250 blood samples taken from clinically suspected cases were detected with malaria parasites by PCR and light microscope, respectively.

The nested-PCR technique was used for the identification of *Plasmodium* species in malaria vectors. Parasites of *P. falciparum* malaria were found in the samples of *An. pulcherimus* from Surchandarya region (Uzbekistan), and *P. vivax* malaria in *An. superpictus* from the Khatlon region (Tajikistan). The results of PCR assays have shown the ability of malaria vectors to transmit malaria

parasites, and thus we understand better the roles of different malaria vectors in malaria transmission in Central Asia.

Malaria elimination and its application to malaria affected countries in the WHO European Region

Terminological issues

The terms 'eradication' and 'elimination' are close semantically, but not identical. According to the International Task Force for Disease Eradication, 1989-1992, eradication is a "reduction of the worldwide incidence to zero as a result of deliberate efforts..." and elimination refers to a "cessation of transmission of a disease in a single country, continent". Eradication in relation to malaria has been used since the beginning of the 20th century in a very broad sense (e.g. a "malaria eradication in a country" or a "practical eradication"). However, for the sake of consistency, the above more rigid definition ought to be accepted, and the term 'malaria eradication' discarded, since no human malaria parasite can be exterminated worldwide in a foreseeable future. However, for retrospective studies, both terms may be treated as synonyms.

In Russian, the term 'ликвидация' (liquidation) has been used since the 1920s at least, in the same sense as "eradication". This term is neither semantically identical to 'elimination' nor to 'eradication'. Therefore it is suggested to use the term 'элиминация' which is a perfect and a long-established translation for elimination.

Elimination of malaria as a whole or elimination of particular species of malaria?

The four human species of malaria are very different in terms of their epidemiology and public health significance. The goal of malaria elimination needs to be set up separately for two important species, viz. the *vivax* and *falciparum* malarias, and appropriate strategies selected accordingly species-wise. A selective elimination of *falciparum* malaria is a legitimate goal in temperate and subtropical areas.

Development of the concept of eradication/elimination and its implementation

A "global malaria eradication campaign" launched in 1955 was global only by name. Due to technical impossibility to interrupt malaria transmission, Afrotropical areas, where the bulk of global malaria is concentrated, were not involved. Elsewhere, malaria eradication programmes achieved an interruption or a substantial decrease of malaria transmission, thus liberating about 1 billion of the global population from the risk of contracting malaria. Unfortunately, this effort was undeservingly dubbed as a "failure", thus discrediting the idea of malaria elimination.

In the 1980s WHO ceased to support the goal of malaria eradication, but a number of countries continued to work in this direction on their own. They were countries where malaria was not widespread, but still remained a serious potential threat, was draining resources and undermining agriculture and the tourist industry. The revised WHO Global strategy on malaria control (1990-1991) did not address them. Understanding that some of these countries can do away with malaria with a minimal external support came later in the 1990s. In 1997, WHO supported the North-African initiative for eliminating malaria from all the five countries of the subcontinent by 2002 (EMRO/AFRO meeting in Tunis). In 2002, a WHO Conference on malaria in Rabat looked into the approaches to malaria elimination in the new conditions. The Tashkent initiative of October 2005 is the first step in the same direction for malaria-affected countries of the WHO European Region.

Malaria elimination in the WHO European Region

Experience of malaria eradication campaigns demonstrated that an interruption of transmission was easier in southern Europe. This was also true in relation to parts of the Palaearctic zoogeographic region outside Europe (North and Central Asia, Near East and North Africa) where ecosystems are less capable to support malaria. Therefore it would be more appropriate to plan malaria elimination in this natural entity as a whole rather than by the WHO regions, which have been carved out with little respect to natural conditions.

Within this vast area, the following groups of countries have been identified:

- 1) Most of the countries are those that successfully eliminated malaria before or during the Global Campaign (by mid- 1960s) or later in the 20th century (Tunisia, 1979).
- 2) Countries in which interruption of malaria transmission was declared recently: Algeria, Morocco, Tunisia, Libya, Egypt, United Arab Emirates. The policy in both groups would be prevention of malaria re-introduction and, for the second group, certification of malaria elimination.
- 3) Countries that have eliminated *P.falciparum* only, but never *P.vivax*: Turkey, Azerbaijan, Iraq, Syria, Iran (without the southeast), Saudi Arabia (without the southwest), China (Northern, Western and Central). The policy would be to prevent a re-introduction of *P. falciparum* malaria and to consider desirability and feasibility of elimination of *P. vivax*.
- 4) Countries that eliminated malaria at some point in time, but where *P. vivax* malaria has re-emerged: Armenia, Georgia, Uzbekistan, Kyrgyzstan, Turkmenistan, Russia. The policy would be to suppress the ongoing epidemics, to prevent re-introduction of *P. falciparum* malaria and to consider desirability and feasibility of elimination of *P. vivax*.
- 5) A country in which both species of malaria re-emerged: Tajikistan, where the task would be to suppress ongoing epidemics and proceed to elimination of *P. falciparum* malaria.
- 6) A country in which transmission of both species has never been interrupted: Afghanistan, where the main direction would be a further development of malaria control, with special reference to *P. falciparum* malaria.

Principles of malaria elimination, then and now

Important changes took place over the last 50 years since the start of the malaria eradication campaign. Some of them make elimination more difficult, others work in the opposite direction. This requires commensurate modifications of the elimination strategies.

Some of the principles of malaria eradication have become obsolete by now, such as having a vertical structure for malaria elimination. Malaria elimination has ceased to be considered a time-limited endeavor, because one part of any elimination programme, i.e. a mechanism for prevention of malaria re-establishment, would be functioning indefinitely.

However, most of the principles of malaria eradication, as outlined by the 6th Expert Committee on Malaria (1956) remain valid, such as phasing, geographical reconnaissance, selection of one main attack method, total coverage in space and time by attack measures and surveillance, monitoring of the degree of foci activity on the basis of a case classification. Approaches are, obviously to be modified because of new products and technologies becoming available. Thus, new computer technologies make it practical to monitor foci in real time, etc.

Transition from control to elimination will demand additional financing and may require revamping of existing services in order to achieve a necessary high degree of perfection in operation and surveillance. A political decision to embark on malaria elimination should be taken only after careful consideration of a country's capabilities.

SCALING UP ROLL BACK MALARIA PARTNERSHIPS

Sharing Global Experience (by RBM WHO/headquarters)

The RBM partnership was launched in 1998 on the initiative of the WHO Director General jointly with UNICEF, the World Bank and UNDP. The launch of the RBM partnership was in response to the calls by health ministers (Amsterdam 1992), heads of states (Harare 1997) and building on the African Initiative on Malaria. The RBM partnership has significantly increased the global commitment to fighting malaria and has achieved this by bringing together those already engaged in malaria control and by mobilizing new partners in order to achieve the required scale of response. The partnership has grown to include a wide range of constituencies who bring a formidable assembly of

expertise, infrastructure and funds to the fight against the disease. The partnership is made up of the following entities:

- Endemic countries
- Donor countries
- Multilateral development partners
- Global Fund to fight AIDS, TB and Malaria
- Private sector
- WHO
- World Bank
- UNICEF
- UNDP
- Non-governmental and community-based organizations
- Research & Academic institutions

RBM partners share and adopt the common vision and strategy to roll back malaria, consider the comparative advantage of each partner and identify their own area of expertise or comparative advantage when supporting RBM interventions, and promote a coordinated approach and support and employ the operating mechanisms of the RBM partnership.

From late 2002, the RBM partnership has been structured as follows:

- The Roll Back Malaria Partnership Forum;
- The Roll Back Malaria Partnership Board;
- A Partnership Secretariat led by an Executive Secretary, hosted by WHO and including the following teams:
 1. planning, monitoring and evaluation
 2. partnership and networking
 3. advocacy and communication
 4. financing

The RBM partnership has recently assisted in (1) policy and strategy development (RBM Partnership Global Strategic Plan – consensus by all RBM partners on the way forward 2005-2015 and Consensus Statements validated by the Board); (2) in implementation (coordination action – campaigns “measles and malaria”, up-stream bottleneck resolution – malaria medicines and supplies service and LLIN technology transfer, and down-stream bottleneck resolution – support for procurement/supply/management plans and sub-regional networks); (3) in advocacy (advocacy efforts more coordinated, greater number of partners engaged and wider audience reached, decision makers influenced, “RBM champions”, and new resources for advocacy mobilized); (4) in finance (USD 60 million in 1998 and USD 600 in 2004).

Mobilizing and deploying resources (by USAID/CAR)

The challenge of malaria, and work toward its elimination in Central Asia, represents a regional threat that demands a regional response. Malaria, like other infectious diseases, knows no borders. It is appropriate that a global organization like the World Health Organization take a leadership role in mobilizing the international community to “Roll Back Malaria”. Globally, malaria control is a priority for the U.S. government. President George W. Bush’s recent announcement of an initiative to accelerate the fight against malaria, with a pledge to increase funding of malaria prevention and treatment by more than USD 1.2 billion over five years, has the goal to reduce malaria deaths by 50% in targeted African countries. The President made this commitment in June this year as the U.S. contribution to a larger international effort needed to reduce the burden of malaria, and called on other donors, foundations, public, private, and voluntary organizations to complement the United States’ commitments. This initiative reinforces the U.S. Government’s ongoing support for malaria control through its contributions as a leading donor for the Global Fund to Fight AIDS, Tuberculosis and Malaria.

In Central Asia, Kyrgyzstan, Tajikistan and Uzbekistan have all prepared and submitted applications on malaria to the Global Fund. Turkmenistan also prepared a proposal, although it may be submitted only in the sixth round. I believe all were prepared with assistance provided by WHO, including in part with USAID support. To date, only Uzbekistan has received a grant, although we remain hopeful that both Kyrgyzstan and Tajikistan will eventually receive funding under Round Five. These global resources provide a crucial response to the disease. Approximately 14 million people, or 30% of the total population of Central Asia, live in areas at risk of malaria. Upheavals in the region, the collapse of the Soviet Union, the civil war in Tajikistan, and ongoing regional migration, disrupted malaria control efforts. The deteriorating malaria control situation in Afghanistan also influences the spread of the disease in neighboring countries. Drug-resistance to anti-malarial medicines is a growing problem, while more severe forms of malaria are also increasingly prevalent in certain parts of the region. Malaria has not received the donor attention in the region of other global health threats like HIV/AIDS and tuberculosis. In addition to the Global Fund, only USAID and ECHO are providing donor support on malaria control.

The U.S. Agency for International Development (USAID) has been a leader in the global effort to control malaria since the 1950s, and is the U.S. Government's lead agency for implementing malaria prevention and treatment programmes serving affected countries overseas. Between 1998 and 2005, USAID globally increased its annual commitment to fighting malaria around the world from USD 22 million to USD 89 million, most of which is targeted to African countries with the highest levels of transmission. At the Central Asian Regional Mission for USAID, we have supported malaria prevention and control efforts in the region with more than USD 3 million since 2000. We are pleased to work in partnership with national governments and ministries of health in the region, as well as with other partners, such as the World Health Organization, the US Centers for Disease Control and Prevention and the NGO MERLIN. USAID also supports the Rational Pharmaceutical Management Project to implement selected components of rational pharmaceutical management in Central Asia. Appropriate procurement, needs estimations, logistics management, supply tracking, and quality assurance of pharmaceuticals are all crucial elements of health care management. In November 2005, the project will introduce training and equipment for Thin Layer Chromatography, primarily as a method to check the quality of TB drugs. A low-cost, portable piece of equipment will be able to assess not only TB drug quality, but that of approximately 40 other drugs, including antiretrovirals to be procured for treatment of people living with HIV/AIDS, and anti-malarial drugs. USAID sees this component of our support as typical of the systems strengthening we are increasingly focused on throughout the region. Our ZdravPlus health reform programme seeks to enhance financial, quality, and organizational systems to improve the ability of health systems in the region to respond to any health threat, including, but not limited to, malaria.

This is an era of shrinking resources and multiple, competing demands. Avian influenza looms on the horizon. We have a rapidly closing window of opportunity to stem the spread of HIV/AIDS. Multi-drug resistant TB is recorded at record highs in the region. The reality of limited resources and pressing health needs provides further justification and encouragement for a health systems strengthening approach. USAID/Washington has recently funded a study to look at how applications to the Global Fund can better incorporate this aspect of programming, to increase the impact of resources provided through Global Fund grants. We hope that the lessons learned will be used by all countries in the region. The fact of diminishing resources means that every dollar, sum, manat or tenge must be used to its fullest advantage. As we mobilize resources for health, we must remain vigilant to ensure that they are used not only for a limited purpose, but ultimately to strengthen the overall delivery of health care and protection of public health. This is a challenge not only for malaria control, but for health efforts throughout Central Asia. It should be carefully examined during this meeting how we can work regionally and across borders to strengthen our response and efforts to eliminate malaria in Central Asia.

Progress with Roll Back Malaria partnership in Central Asia (by RBM WHO/Europe)

In Central Asia, an inter-country meeting with the technical support of the WHO Regional Office for Europe and CDC CAR was organized in Bishkek, Kyrgyzstan in March 2003 at which Ministry level officials from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan reaffirmed their

commitments towards implementing malaria control and preventive measures based on well-defined national and regional priorities. Within Central Asia, a scaling up of Roll Back Malaria interventions followed an epidemic of malaria that occurred in the southern region of Kyrgyzstan in 2002. In response to the epidemic, a regional strategy in which baseline surveys were conducted, priority-specific interventions were identified, practical modalities for the regular cross-border exchange of information related to malaria were developed, and populations at particular risk were identified, is being actively promoted through the activities carried out by the Roll Back Malaria project in Central Asia. A project entitled "Roll Back Malaria in Central Asia" has gained the financial support of the United States Agency for International Development.

In face of the grave malaria situation in Tajikistan, a recent malaria epidemic in Kyrgyzstan and the re-establishment of malaria transmission in Turkmenistan, Uzbekistan and Kazakhstan, where the risk of outbreak situations is very high, the project funded by USAID and executed by WHO/Europe, as a part of the regional RBM partnership initiative, is implemented in highly affected and vulnerable areas of Tajikistan and Kyrgyzstan to change this unfavorable trend in Central Asia. Generally speaking, the target beneficiaries are represented by 5 million people in both countries. Implementation of the project is a collaborative effort of the respective Ministries of Health in cooperation with RBM WHO/Europe, USAID/CAR, CDC/CAR and MERLIN. The project is planned for a period of 2.5 years (July 2003-December 2005), with a possible extension.

The goal of the project is to prevent deaths due to malaria, contain the epidemic in Kyrgyzstan, prevent malaria outbreaks in Tajikistan and Kyrgyzstan, reduce further the incidence and prevalence of malaria and prevent the further spread of malaria to areas where malaria had previously been eliminated, through the progressive strengthening of the capacities and capabilities of health services and mobilizing community actions within the context of the regional RBM initiative. The extension of the project beyond 2005 could contribute to the interruption of transmission of *P. falciparum* malaria and to its elimination. Specific objectives of the project at inter-country and country levels are as follows:

At inter-country level:

- Improved information exchange on the malaria situation and its control and prevention, particularly in border areas;
- Coordinated malaria control and preventive activities in border areas;

At country level:

- Strengthened institutional capacities of national malaria control programmes/general health services and enhanced national capacities for decision-making related to malaria;
- Improved capacities for and access to early diagnosis and adequate treatment of malaria;
- Improved capacities for the timely response to and prevention of malaria epidemics and outbreaks;
- Promoted cost-effective and sustainable vector control;
- Strengthened malaria surveillance systems;
- Strengthened operational research capabilities;
- Increased community awareness and participation in malaria control and prevention.

As a result of the measures being implemented, the overall incidence of malaria was on the decline during the last years (2003-2004) reaching 4.33 per 100,000 population (as compared with 160.33 in 2002) and 80.90 per 1000 population (as compared with 127.27 in 2002) within project areas of Kyrgyzstan and Tajikistan respectively. The incidence of *P. falciparum* malaria has dropped significantly within project areas of Tajikistan in recent years: 12.40 per 100,000 in 2002 and 3.65 in 2004.

With a Global Fund grant of more than USD 2.5 million over five years (2004-2008), Uzbekistan will strengthen malaria control and prevention in the country. The Global Fund has provided grants to Tajikistan and Kyrgyzstan about USD 9 million to support their national response to malaria over the next five years (2006-2010).

Progress with Roll Back Malaria partnership in Central Asia (by ACTED)

ACTED began its activities in Central Asia in 1996. They are basically focused on encouragement of local communities in the process of social and economic development. One of the activities addresses the need of local communities in their fight against malaria in Tajikistan, Uzbekistan and Kyrgyzstan. The malaria prevention programme of ACTED, which is being actively implemented in the above countries is aimed at promoting cost-effective and sustainable vector control (distribution of impregnated mosquito nets, biological control, environmental management and entomological studies), at applying epidemic control measures (indoor residual spraying in areas highly affected by malaria in Tajikistan), at conducting prevalence studies, and at increasing community awareness and participation in malaria prevention. 139,937, 5926 and 4519 mosquito nets have been distributed and impregnated in Tajikistan, Uzbekistan and Kyrgyzstan respectively. 1597 hectares of rice fields in 26 districts of Khatlon province and 278 hectares of rice fields in 1 district of Sughd province were covered by Gambusia distribution in Tajikistan. ACTED will continue to support malaria-related activities in the above-mentioned countries in 2006.

Progress with implementation of the Global Fund malaria project in Georgia (by GFATM)

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 Center was identified as a Primary Recipient of the above-mentioned project, and the National Center for Disease Control and Medical Statistics was contracted as the Principal Recipient responsible for the implementation of project activities in the country. The total budget of the project is USD 806,300.

The objectives of the project are: (1) the strengthening of institutional capacities of the national malaria control programme and general health services; (2) the improvement of national capacities for and access to early diagnosis and adequate treatment of malaria; (3) the promoting of cost effective and sustainable vector control; (4) the strengthening of country surveillance mechanism; (5) the increase of community awareness and participation in malaria control and prevention.

The following activities were carried out during the first year:

1. Technical and managerial expertise and back-up for the project through technical cooperation with RBM WHO/Europe (experts missions) provided (1) to assess the present malaria situation and problems and constraints faced within project areas; (2) to assist in carrying out country-level training workshops related to vector control and GIS (geographical information system); (3) to study distribution of different Anopheles species in malaria high-risk areas of the country and to collect samples for cytogenetical and molecular studies; (4) to introduce the GIS-based mapping on malaria in Georgia; (5) to plan vector control interventions within malaria-affected areas of the country; and (6) to advise on operational research related to malaria control;
2. Equipment and supplies for 80 laboratory facilities procured and delivered within project areas;
3. Computer-based information exchange network between the central and regional levels developed within project areas;
4. Insecticides for indoor residual spraying (1280 kg) procured and distributed;
5. IEC activities to support community-based interventions and to increase community awareness about malaria prevention implemented;
6. Project vehicles) to improve staff mobility within project areas procured and delivered;
7. Baseline and KAP surveys for identification of problems and needs conducted and IEC strategy developed;
8. Malaria-related training on malaria conducted (a number of malaria-related trainings on programme management, disease management and prevention, epidemic preparedness and control, community mobilization, malaria microscopy, vector control,

malaria surveillance including data collection, processing and analysis carried out and more than 650 people trained).

Close cooperation with the RBM programme of WHO/Europe is crucial for the successful planning and implementation of the Global Fund Malaria Project in Georgia.

CONCLUSIONS

The meeting took place six years following the development of a regional strategy to roll back malaria and its successful implementation in malaria affected countries of the WHO European Region. The rationale for organizing the meeting was that the demonstrated feasibility of malaria elimination in the past, the visible impact of Roll Back Malaria (RBM) interventions at present, the will to move further from malaria control to elimination at national level, and the availability of the efficacious tools to control and eliminate malaria in the regional context, may facilitate future decisions towards undertaking the new elimination effort within malaria-affected countries of the WHO European Region.

Participants greatly appreciated the efforts being made by the countries, WHO and RBM partners to contain large-scale epidemics of malaria and reduce its burden. The reduction in the reported number of malaria cases by almost four-fold over the past six years is the most conspicuous achievement of the regional RBM programme. Participants reaffirmed their commitment to the declared goals and objectives of the present regional malaria control strategy, and recognized the need to consolidate the results achieved and to move further from malaria control to elimination.

The strategic guidance and technical assistance provided by WHO was acknowledged with satisfaction and participants emphasized the need to ensure that malaria-affected countries are fully supported in their endeavours to go forward with national malaria control and elimination campaigns. In the context of malaria elimination, particular emphasis should be given to situations, where a risk of spread of malaria across shared borders exists.

The RBM regional movement has successfully mobilized the collective efforts of countries, international agencies, bilateral organizations, the NGO community, and the private sector to create greater awareness of the malaria problem and to increase the amount of overall resources available for malaria in the WHO European Region. In order to achieve a greater impact on the regional malaria situation, participants underlined the need to intensify partnership actions at sub-regional and country levels and urged partners and donors to increase the level of financial assistance. A shortfall in funding would limit the scope of regional RBM programme activities.

Taking into account the substantial progress made with rolling back malaria in affected countries, where in some of them, the incidence of malaria has been brought down to such levels that interruption of its transmission may become a feasible objective, participants welcomed the Regional Initiative "The Move from Malaria Control to Elimination" and recommended the Tashkent Declaration to be endorsed by all the participating countries, in order to make it operational and to go into effect.

ВЫВОДЫ

Данное совещание было проведено через шесть лет после разработки и успешного осуществления региональной стратегии «Обратим Вспять Малярию» (ОВМ) в пораженных малярией странах Европейского региона ВОЗ. Основной идеей для проведения данного совещания послужило то, что возможность элиминации малярии, наглядно подтвержденная в недалеком прошлом; достигнутые результаты в борьбе с малярией в настоящее время; желание стран не останавливаться на достигнутом и двигаться дальше от борьбы к элиминации малярии, а также наличие эффективных средств для борьбы и элиминации малярии в региональном контексте, могли бы способствовать в дальнейшем принятию решений о возможности проведения кампаний по элиминации малярии в пораженных странах Региона.

Участники совещания с удовлетворением отметили те серьезные усилия прикладываемые странами, ВОЗ и ОВМ партнерами по сдерживанию широкомасштабных эпидемий малярии и снижения ущерба от нее. Снижение регистрируемых случаев малярии почти в четыре раза за последние шесть лет является наиболее значимым достижением региональной программы

ОВМ. Участники подтвердили заново обязательства, ранее взятые в отношении задач и целей внедряемой региональной стратегии по борьбе с малярией, и признали необходимость поддержания достигнутых результатов, консолидации усилий и дальнейшего движения от борьбы к элиминации малярии.

Стратегическое руководство и техническая поддержка со стороны ВОЗ было оценено с благодарностью, и участники подчеркнули необходимость гарантировать, что страны пораженные малярией будут полностью поддержаны в дальнейшем в их усилиях по проведению национальных кампаний по борьбе и элиминации малярии. В контексте элиминации малярии, особое внимание должно быть уделено ситуациям, где существует риск распространения малярии между прилегающими пограничными территориями соседних стран.

Региональное движение ОВМ успешно мобилизовало общие усилия стран, международных агентств, неправительственных организаций, и частного сектора для улучшения осведомленности о малярии и увеличения ресурсов для поддержки программы ОВМ в Европейском Регионе. Для достижения больших результатов в борьбе с малярией, участники подчеркнули необходимость усилить партнерское сотрудничество на субрегиональном и национальном уровнях, и просили ОВМ партнеров и доноров увеличить размер финансовой помощи. Было особенно подчеркнуто, что недостаток финансов может ограничить объем мероприятий, проводимых в рамках региональной ОВМ программы.

Принимая во внимание очевидный прогресс достигнутый по региональной программе ОВМ в пораженных странах, где, в некоторых из них, заболеваемость малярией была снижена до такого уровня, что перерыв ее передачи становится возможным, участники совещания приветствовали региональную инициативу «Вперед от Борьбы к Элиминации Малярии» и рекомендовали соответствующую декларацию для принятия всеми странами, участвующими в совещании.

RECOMMENDATIONS

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

For Member States:

1. To remain committed 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;
2. To recognize the need to consolidate the results achieved and move further from malaria control to elimination;
3. In collaboration with WHO, to assess the possibility of malaria elimination in a given country, particularly those, where the interruption of malaria transmission is a feasible objective in the near future;
4. In collaboration with WHO, to develop national strategies and agree upon their goals and targets for malaria elimination;
5. To streamline mechanisms for a more coordinated approach to malaria and more effective RBM partnership action (governmental bodies, international agencies, non-governmental organizations and private sector) at national level;
6. To promote cross-border cooperation in order to coordinate and synchronize malaria-related activities in border areas.

For WHO/Europe:

1. To continue supporting countries in their efforts to tackle the disease, drawing particular attention to strengthening institutional capacities; enhancing capacity for decision-making; improving capacities for epidemic preparedness, response and prevention; reinforcing

- disease surveillance; community mobilization and strengthening national research capabilities;
2. To assist in advocating, promoting and facilitating national efforts in countries in need, in order to move from malaria control to elimination;
 3. To develop a regional strategy for malaria elimination with well-defined objectives and goals;
 4. To assist countries to undertake base-line assessments on issues of direct relevance to the possibility of malaria elimination and identify the financial needs of the countries for malaria elimination;
 5. To continue supporting countries in establishing a regional resource network for country support on malaria-oriented operational research;
 6. To assist in the organization of a regional conference on operational research related to malaria, to be held in 2006;
 7. To assist in the organization of a regional international training course on malaria, to be held in 2007;
 8. To assist in the organization of a regional meeting of national malaria programme managers, to be held in 2007;
 9. To assist in the mobilization of additional resources for malaria control and elimination.

For WHO/Europe and Eastern Mediterranean:

1. To assist in the organization of inter-regional meetings (every two years) and study tours (every year) to report on achievements and to share experiences on malaria control and elimination between countries and regions;
2. To establish an inter-regional task force, comprising representatives of the countries concerned and WHO experts, in order to review the progress made with malaria control and elimination;
3. To assist in drawing up and submitting joint malaria project proposals for neighbouring countries belonging to the above-mentioned Regions (countries of Central Asia and Afghanistan).

For RBM partners:

1. To continue supporting countries in strengthening their capacities and capabilities to deal successfully with malaria;
2. To support the development of inter-country malaria project proposals;
3. To consider providing additional financial resources to support countries' endeavours to consolidate the results achieved and move forward with national malaria elimination campaigns.

For GFATM, WHO/Europe and Member States:

1. To continue supporting countries to plan, implement and monitor malaria projects funded by the Global Fund;
2. To assist in the organization of a regional meeting on progress made with implementation of the Global Fund malaria projects, to be held in 2006.

РЕКОМЕНДАЦИИ

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

Для стран-участников:

1. Оставить за собой прежние обязательства в области малярии, изложенные в принятой в сентябре 2002 года региональной резолюции EUR/RC52/R10 «Усилим противомаларийную деятельность в Европейском регионе ВОЗ»;
2. Признать необходимость консолидировать достигнутые результаты и двигаться дальше от борьбы к элиминации малярии: к 2010 году - для тропической малярии и к 2015 году - для трехдневной малярии;
3. В сотрудничестве с ВОЗ, оценить возможность элиминации малярии (включая финансовые потребности) в странах, пораженных малярией, в особенности в тех, где перерыв передачи малярии возможен в ближайшем будущем;
4. В сотрудничестве с ВОЗ, разработать национальные стратегии элиминации малярии и согласовать их цели и задачи;
5. Оптимизировать механизмы для улучшения координации противомаларийной деятельности и более эффективного партнерского сотрудничества по линии ОВМ (государственные структуры, международные агентства, негосударственные организации и частный сектор) на национальном уровне;
6. Улучшить взаимодействие между странами по координации проведения противомаларийных мероприятий;

Для ВОЗ (Европейское Региональное Бюро):

1. Продолжить оказание помощи в проведении противомаларийных мероприятий, уделяя особое внимание укреплению противомаларийной службы, подготовке кадров, улучшению системы быстрого реагирования на эпидемии малярии и их предупреждения, усилению системы эпидемиологического надзора, работе с населением и укреплению научно-исследовательского потенциала в области малярии;
2. Оказать необходимую техническую помощь в продвижении региональной инициативы «Вперед от борьбы к элиминации малярии» на национальном уровне;
3. Разработать региональную стратегию элиминации малярии с формулировкой четко обозначенных целей и задач;
4. Провести, совместно со странами, оценочные исследования, направленные на изучение возможности элиминации малярии в той или иной стране и определить финансовые потребности необходимым странам для проведения программ с целью элиминации малярии;
5. Продолжить оказание помощи в создании региональной ресурсной сети для поддержки стран в области научно-практических исследований по малярии;
6. Оказать помощь в организации первой региональной конференции, посвященной научно-практическим исследованиям по вопросам малярии, которая предположительно могла бы состояться в 2006 году;
7. Оказать помощь в организации 4-недельного международного курса по малярии, который предположительно могло бы состояться в 2007 году;
8. Оказать помощь в организации регионального совещания стран, пораженных малярией, которое предположительно могло бы состояться в 2007 году;
9. Оказать помощь в мобилизации дополнительных ресурсов для борьбы и элиминации малярии.

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

1. Оказать помощь в организации межрегиональных совещаний (каждые два года) и обмена специалистами (каждый год) для отчета о достигнутых результатах и обмена опытом в области борьбы и элиминации малярии между вышеупомянутыми регионами и приграничными странами;
2. Создать межрегиональную группу, включающую представителей всех заинтересованных стран и экспертов ВОЗ для оценки результатов проведенной работы в области борьбы и элиминации малярии;
3. Оказать помощь в подготовке и предоставлении для рассмотрения совместных проектов по малярии, включающих пограничные страны вышеупомянутых регионов (страны Центральной Азии и Афганистан).

Для ОВМ партнеров:

1. Продолжить оказание помощи странам в укреплении их лечебно-профилактических служб и научно-практического потенциала для успешного проведения противомаларийных мероприятий;
2. Поддержать разработку межнациональных проектов по малярии;
3. Изыскать возможность выделения дополнительных финансовых средств для поддержки стран в консолидации достигнутых результатов и их дальнейшем движении по пути элиминации малярии.

For Глобального Фонда, ВОЗ (Европейское региональное бюро) и стран-участников:

1. Продолжить оказание помощи в разработке, планировании, проведении и мониторинге проектов малярии, осуществляемых в рамках Глобального Фонда;
2. Оказать помощь в организации региональной конференции по вопросам реализации проектов по малярии, финансируемых Глобальным Фондом, которая могла бы состояться в 2006 году.

Tashkent Declaration:
“The Move from Malaria Control to Elimination”
in the WHO European Region
A Commitment to Action

We, the Ministers of Health,

Recalling World Health Assembly resolutions WHA52.11 and WHA58.2 that identified Roll Back Malaria as a priority project for WHO and called for further support to malaria control, in order to achieve the internationally agreed targets and goals;

Reaffirming our previous commitments to malaria made through the regional resolution, EUR/RC52/R10, "Scaling up the response to malaria in the European Region of WHO" from September 2002;

Appreciating the momentum offered by the Roll Back Malaria (RBM) partnership movement to curb large-scale epidemics of malaria in Central Asia, the Trans-Caucasian region and Turkey in the mid-1990s;

Welcoming the substantial progress made with rolling back malaria in affected countries, particularly those where the incidence of malaria has been brought down to such levels that interruption of transmission may become a feasible objective;

Proving the demonstrated feasibility of malaria elimination in the WHO European Region in the recent past and the successful elimination of malaria in several Member States of the WHO Eastern Mediterranean Region at present;

Being mindful of the efficacious tools available to control and eliminate malaria in the regional context at present;

Emphasizing that a unique opportunity now exists to move further from malaria control to elimination;

Acknowledging that resources devoted to undertaking the new effort shall commensurate with the scope of the work to be done at national level;

Recognizing that the elimination of malaria requires additional efforts and an increase in resources;

1. **Remain** fully committed to the regional RBM movement, which has helped Member States to pursue successful partnership actions resulting in containment of malaria epidemics and burden reduction;
2. **Recognize** the need to consolidate the results achieved and to move further from malaria control to elimination at national level;
3. **Commit** ourselves to make all possible efforts required to achieve a greater impact on malaria situations in Member States;
4. **Call upon** the WHO Regional Office for Europe to assist countries in need of advocating, promoting and facilitating national efforts, in order to move from malaria control to elimination;
5. **Call upon** all Member States to support the WHO Regional Office for Europe in its efforts towards promoting the new regional initiative with the goal of eliminating malaria in the Region by 2015;
6. **Pledge** to develop, in collaboration with WHO, technically sound national malaria elimination strategies;

7. **Underline** the need to ensure that malaria-affected countries in the European Region are fully supported by organizations of the United Nations system, bilateral development agencies, development banks, nongovernmental organizations and the private sector in their endeavours to move forward with national malaria control and elimination campaigns;
8. **Urge** RBM partners to increase the level of financial assistance, in order to contribute to the attainment of the agreed objectives and goals;
9. **Stress** the need to strengthen cross-border collaboration for solving malaria-related problems. In the context of malaria elimination, particular emphasis should be given to situations, where there is a risk of spread of malaria between countries;
10. **Note** the importance of monitoring progress made with malaria control and elimination campaigns in accordance with WHO recommendations;
11. **Request** the 56th Regional Committee of the WHO European Region to take up the Tashkent Declaration, to follow up periodically on the implementation of this Declaration and to report on the progress achieved;
12. **Call upon** the WHO Regional Office for Europe to promote inter-regional collaboration and coordination with the WHO Eastern Mediterranean Region on issues related to malaria elimination.

**Ташкентская Декларация
«Вперед от Борьбы к Элиминации Малярии»
в Европейском регионе ВОЗ
Обязательство к Действию**

Мы, Министры Здравоохранения,

Вспоминая резолюции Всемирной Ассамблеи Здравоохранения WHA52.11 и WHA58.2, которые определили «Обратим Вспять Малярию» (ОВМ) как приоритетный проект для Всемирной Организации Здравоохранения (ВОЗ), и призвали к дальнейшей поддержке мероприятий, направленных на борьбу с малярией с целью достижения задач, согласованных на международном уровне;

Подтверждая наши прежние обязательства, взятые в области малярии, и изложенные в региональной резолюции EUR/RC52/R10 «Усилим противомаларийную деятельность в Европейском регионе ВОЗ» принятой в сентябре 2002 года;

Положительно оценивая возможность, представленную партнерским движением ОВМ в сдерживании широкомасштабных эпидемий малярии в Центральной Азии, Кавказского региона и Турции в середине 90-х годов;

Приветствуя очевидный прогресс, достигнутый в борьбе с малярией в пораженных странах, в особенности в тех из них, где заболеваемость малярией была снижена до такого уровня, что перерыв ее передачи становится возможным;

Подтверждая возможность элиминации малярии в Европейском регионе ВОЗ в недалеком прошлом и подобные успехи, наглядно продемонстрированные в Восточно-Средиземноморском регионе ВОЗ в настоящее время;

Помня о наличии эффективных средств для борьбы и элиминации малярии в региональном контексте в настоящее время;

Подчеркивая представленную уникальную возможность - двигаться вперед от борьбы к элиминации малярии;

Зная, что ресурсы, направленные на выполнение данной региональной инициативы должны соответствовать объему работы, которую предстоит выполнить странам;

Признавая, что элиминация малярии требует дополнительных усилий и увеличения финансовых ресурсов;

- 1. Оставляем** полностью за собой обязательства данные региональному движению «ОВМ», которое помогло нашим странам, в рамках эффективного партнерского сотрудничества, осуществить успешное проведение противомаларийных мероприятий и, как результат, сдержать распространение эпидемий малярии и снизить ущерб от нее;
- 2. Признаем** необходимость консолидировать достигнутые результаты и двигаться далее от борьбы к элиминации малярии в странах Европейского региона ВОЗ;
- 3. Обязуемся** предпринять все необходимые усилия, которые потребуются для достижения более весомых результатов в деле дальнейшей борьбы с малярией в странах Европейского региона ВОЗ;
- 4. Призываем** Европейское Региональное Бюро ВОЗ оказать необходимую помощь нуждающимся странам в их усилиях по претворению в жизнь вышеуказанной декларации;

5. **Призываем** все страны, принадлежащие к Европейскому региону ВОЗ, поддержать Региональное Бюро ВОЗ в его усилиях по выполнению поставленных задач в рамках вышеуказанной инициативы, с целью элиминации малярии в Регионе к 2015 году;
6. **Обязуемся** разработать, в сотрудничестве с ВОЗ, обоснованные национальные стратегии элиминации малярии;
7. **Подчеркиваем** необходимость гарантировать, что страны пораженные малярией будут полностью поддержаны организациями системы Объединенных Наций, агентствами по двустороннему развитию, банками развития, международными и общественными организациями и частным сектором в проведение национальных кампаний по борьбе и элиминации малярии;
8. **Просим** партнеров, поддерживающих программу «ОВМ» увеличить размер финансовой помощи для достижения поставленных задач и целей;
9. **Подчеркиваем** необходимость усиления взаимодействия между странами в решении пограничных проблем, связанных с малярией. В контексте элиминации малярии, особое внимание должно быть уделено ситуациям, где существует риск распространения малярии между странами;
10. **Отмечаем** важность проведения мониторинга для оценки достигнутых результатов в процессе борьбы и элиминации малярии в соответствии с рекомендациями ВОЗ;
11. **Просим** вынести данную декларацию на рассмотрение 56-ого регионального комитета Европейского Регионального Бюро ВОЗ и далее периодически заслушивать доклады о достигнутом прогрессе;
12. **Призываем** Европейское Региональное Бюро ВОЗ развивать сотрудничество и осуществлять координацию в деле элиминации малярии с Восточно-Средиземноморским регионом

Annexes

Annex1

PROGRAMME

Tuesday, 18 October	
08.30–09.00	Registration
09.00–09.10	Welcome by <i>Minister of Health, Uzbekistan</i>
09.10–09.30	Welcoming address by <i>Dr F. Nafo-Traoré</i> , Director, Roll Back Malaria, WHO Headquarters <i>Dr G. Magnusson</i> , Director, Division of Technical Support Reducing Disease Burden, WHO European Region <i>Dr K. Pelzman</i> , Director, Office of Health and Education, USAID/CAR <i>Dr V. Chernyavskiy</i> , Fund Portfolio Manager, The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)
09.30-09.35	Election of Chairperson and Rapporteur
09.35-09.45	Introduction of participants Meeting objectives and arrangements
09.45-10.15	<i>Coffee break</i>
10.15-10.35	World update on Roll Back Malaria (<i>WHO/RBM/HQ</i>)
10.35-10.50	Progress with Roll Back Malaria and challenges to malaria elimination in the WHO European Region (<i>WHO/RBM/Europe</i>)
10.50-11.05	Progress with Roll Back Malaria and challenges to malaria elimination in the WHO Eastern-Mediterranean Region (<i>WHO/RBM/Eastern-Mediterranean Region</i>)
11.05-11.15	Plenary discussion
11.15-12.45	Progress with and challenges to roll back malaria in malaria affected countries (<i>Armenia, Azerbaijan, Georgia, Iran, Syria, Turkey</i>)
12.45-13.00	Plenary discussion
13.00-14.00	<i>Lunch break</i>
14.00-15.30	Progress with and challenges to roll back malaria in malaria affected countries (<i>Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan</i>)
15.30-15.50	Plenary discussion
15.50-16.20	<i>Coffee break</i>
16.20-17.05	Country experience with malaria control and prevention (<i>Bulgaria, Moldova, Russian Federation</i>)
17.05-17.20	Plenary discussion
17.20-17.30	Wrap-up session – closure of first day (<i>Rapporteur</i>)

Wednesday, 19 October	
09.00–09.30	A review of malaria vectors and their biology in countries of WHO European Region (<i>Dr A. Zvantsov</i>)
09.30–10.00	The analysis of different <i>Anopheles</i> species in the WHO European Region using cytogenetical, molecular and genetic techniques (<i>Dr I. Goriacheva</i>)
10.00–10.20	Plenary discussion
10.20–10.40	<i>Coffee break</i>
10.40–11.10	PCR detection and identification of genetic differences in malaria parasites infecting human subjects in Central Asia (<i>Dr. M. Gordeev</i>)
11.10–11.40	Malaria elimination and its application to malaria affected countries in the WHO European Region (<i>Dr A. Beljaev</i>)
11.40–12.00	Plenary discussion
12.00–13.00	<i>Lunch break</i>
13.00–13.20	Scaling up Roll Back Malaria partnerships: Sharing Global Experience (<i>WHO/RBM/HQ</i>)
13.20–13.35	Challenges to Roll Back Malaria partnership in action in Central Asia: Mobilizing and deploying resources (<i>USAID/CAR</i>)
13.35–13.50	Plenary discussion
13.50–14.35	Progress with Roll Back Malaria partnership in action in Central Asia (<i>WHO/RBM/Europe, ACTED</i>)
14.35–14.50	Progress with implementation of the Global Fund malaria project in Georgia (<i>GFATM/Georgia</i>)
14.50–15.10	Plenary discussion
15.10–15.30	<i>Coffee break</i>
15.30–15.45	Introduction of group work
15.45–17.45	Group work: Working group 1: Malaria control/elimination and cross-border cooperation (<i>Armenia, Azerbaijan, Georgia, Iran, Syria, Turkey, RBM partners, WHO</i>) Working group 2: Malaria control/elimination and cross-border cooperation (<i>Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, RBM partners, WHO</i>) Working group 3: Drafting a regional declaration on malaria elimination (<i>all participating countries, WHO, RBM partners</i>)
17.45–18.00	Wrap-up session – closure of second day (<i>Rapporteur</i>)
Thursday, 20 October	
09.00–11.00	Group work continued
11.00–11.20	<i>Coffee break</i>
11.20–12.05	Working group presentations - conclusions/recommendations
12.05–12.45	Plenary discussion and adoption of recommendations
12.45–13.00	Closing statements and remarks

Annex 2

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