**Eliminating malaria in KYRGYZSTAN**

Kyrgyzstan, which was malaria-free from 1959 through 1986, reported only three cases of malaria in 2010 and is on track to eliminate malaria by 2015.

**Overview**

Malaria in Kyrgyzstan has declined drastically since 2002 and is now categorized in the elimination phase by the World Health Organization (WHO). Kyrgyzstan has experienced a 99 percent decrease in reported malaria cases between 2002 and 2010, from 2,712 cases to only three cases. Malaria transmission is due only to *Plasmodium vivax*. Seasonal transmission of malaria occurs between May and October. *Anopheles superpictus* and *An. messeae* are the two primary mosquito vectors, with *An. pulcherrimus*, *An. hycanus*, *An. martinius*, and *An. claviger* serving as secondary vectors. The areas with greatest potential for malaria transmission are in the south of the country, mostly due to the numerous rice plantations, swamps and reservoirs.

Kyrgyzstan eliminated malaria in 1959 and remained malaria-free through the mid-1980s. Malaria was reintroduced in 1986 as a result of infected soldiers returning from war in Afghanistan. After a decade of containing mostly imported cases, in 1996 the first verifiable local case of malaria was reported. By 2002 malaria had resurged and cases numbered more than 2,700. With support from the Global Fund, and through the use of selective vector control measures and prompt treatment of confirmed cases, the malaria situation has greatly improved since the 2002 outbreak. The current

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**At a Glance**

- 3 Reported cases of malaria (P. vivax only)
- 0 Deaths from malaria
- 0.4 % of population at risk (total population: 5.3 million)
- 0.0005 Annual parasite incidence (cases/1,000 total population/year)
- 0.01 % Slide positivity rate


**Malaria Transmission Limits**

*Plasmodium vivax*

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*P. vivax* malaria risk is classified into no risk, unstable risk of <0.1 case per 1,000 population (API) and stable risk of ≥0.1 case per 1,000 population (API). Risk was defined using health management information system data and the transmission limits were further refined using temperature and aridity data. Data from the international travel and health guidelines (ITHG) were used to identify zero risk in certain cities, islands and other administrative areas.
malaria strategy in Kyrgyzstan is to promote and facilitate efforts to eliminate *P. vivax* malaria and achieve national malaria elimination by 2015.\(^7\)

**Progress Toward Elimination**

During the 1930s, up to 200,000 people in Kyrgyzstan were believed to have malaria.\(^2\) By the end of World War II in 1945, malaria incidence in the Soviet Union was just over 67,000 cases annually.\(^8\) The Soviet Union implemented rigorous elimination measures starting in 1951, just prior to WHO’s Global Malaria Eradication Program (1955–1969), and malaria was eliminated from Kyrgyzstan by 1959.\(^4,\(^8\) The Soviet Union’s elimination campaign included vector control through indoor residual spraying (IRS), mass drug administration with antimalarial drugs, active case detection and treatment, and mosquito vector studies.\(^9\) To achieve elimination at a faster rate, the government offered incentives to health workers and malaria program staff for detecting malaria foci.\(^9\)

In 1986, after nearly 30 years of malaria-freedom, malaria was reintroduced as a result of soldiers returning from Afghanistan during the Soviet-Afghan war (1979–1989).\(^4\) By 1988, there were 21 local cases of malaria, 11 of which came from the Batken region, which borders Tajikistan to the south and Uzbekistan to the west.\(^4\) In the early 1990s only imported cases were reported in the country, but in 1996 a local case was registered in the Panfilov region in northern Kyrgyzstan. Control measures were not sustained and there was a slow rise in the number of local malaria cases until the 2002 outbreak.

In 2002 a malaria epidemic occurred as a result of infected travelers migrating from Tajikistan, and a total of 2,267 local cases of *P. vivax* were reported in the southwestern region of the country.\(^7\) In response to the outbreak, the WHO Regional Office for Europe opened a malaria field office in Batken Province, one of the three regions that was most affected.\(^5\) Malaria drugs, insecticides, and microscopes were provided,
and vector control activities including IRS were implemented to contain the epidemic. In 2003 the United States Agency for International Development (USAID) provided Kyrgyzstan with funding to train malaria specialists and health personnel in disease management and prevention. These efforts were successful, as only 465 cases of malaria were reported in 2003. In 2005 Kyrgyzstan, along with nine other malaria-endemic European countries, endorsed the Tashkent Declaration—the move from malaria control to elimination in the WHO European Region—which marked its political commitment to eliminate malaria from the region.

In 2006 Kyrgyzstan received a Global Fund Round 5 grant to strengthen its national malaria control program capacities for malaria control and general health services. Within the framework of this grant, Kyrgyzstan received technical assistance on malaria control, including malaria-related trainings for health personnel; support in malaria management and prevention; vector control activities such as IRS, surveillance, and epidemic preparedness; and community education. Following this support, malaria cases reduced by 70 percent, from 314 cases in 2006 to 96 cases in 2007. Since 2007 malaria cases have continued to decline and by 2010 only three local cases were reported.

A national elimination strategy was published in 2008 that officially set Kyrgyzstan on a path to eliminate malaria for a second time. The WHO Regional Office for Europe and the Kyrgyzstan ministry of health have a biennial collaborative agreement to support Kyrgyzstan’s national elimination campaign by providing technical assistance and building capacity within the malaria program, strengthening cross-border collaboration, and supporting operational research on malaria. In 2010 Kyrgyzstan received two Global Fund Round 8 grants to increase access to malaria prevention and treatment tools and strengthen capacity of the national malaria program to interrupt transmission and prevent malaria outbreaks. With continued success, Kyrgyzstan will achieve its goal to interrupt transmission by 2015.

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**Eligibility for External Funding**

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<thead>
<tr>
<th>Fund</th>
<th>Eligibility</th>
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<tbody>
<tr>
<td>The Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
<td>Yes</td>
</tr>
<tr>
<td>U.S. Government’s President’s Malaria Initiative</td>
<td>No</td>
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<tr>
<td>World Bank International Development Association</td>
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**Economic Indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
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<tr>
<td>GNI per capita (US$)</td>
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</tr>
<tr>
<td>Country income classification</td>
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<tr>
<td>Total health expenditure per capita (US$)</td>
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<tr>
<td>Total expenditure on health as % of GDP</td>
<td>6.8</td>
</tr>
<tr>
<td>Private health expenditure as % total health expenditure</td>
<td>49</td>
</tr>
</tbody>
</table>

**Challenges to Eliminating Malaria**

**Cross-border migration**

Cross-border migration is a challenge facing Kyrgyzstan as it works to eliminate malaria. The resurgence of cases in 2002 was largely a result of imported cases from neighboring countries into the southwestern Batken region, where the conditions for malaria transmission are favorable. In 2010, a cross-border meeting on malaria elimination took place in Kyrgyzstan. Country officials from Kyrgyzstan, Tajikistan, and Kazakhstan, along with representatives from the WHO Regional Office for Europe and the Global Fund, attended the meeting to discuss a regional approach to eliminating malaria.

**Ecological conditions**

The prevalence of ideal breeding grounds such as rice fields, swamps, and reservoirs, especially in southern regions of Osh, Batken and Jalal-Abad, presents a challenge that must be addressed. Small rice-growing plots close to private dwellings without any mosquito control measures currently provide fertile breeding grounds for mosquitoes.
Conclusion

Since the 2002 epidemic, malaria cases have decreased by 99 percent down to only three cases reported in 2010. With strong political commitment to eliminate malaria, Kyrgyzstan is on track to malaria freedom once again. Collaboration with neighboring endemic countries, controlling mosquito breeding grounds, sustaining current control measures, and providing prompt treatment of confirmed cases will ensure that Kyrgyzstan will meet its goal to eliminate malaria by 2015.

Sources

4. WHO/EURO. Malaria Vectors and Approaches to their Control in malaria affected countries of the WHO European Region. World Health Organization Regional Office for Europe, 2001.
6. WHO/EURO. Meeting on progress achieved with malaria elimination in the WHO European Region. 2007.

Transmission Limits Map Sources

Centers for Disease Control and Prevention (2009) CDC Health Information for International Travel 2010. U.S Department of Health and Human Services, Public Health Service, Atlanta, USA; World Health Organization International Travel and Health (as at 1 January 2010), Geneva, Switzerland (Data years 2009–2010))
About This Briefing

This country briefing was produced through a collaboration of the Global Health Group, in partnership with the National Malaria Control Program in Kyrgyzstan. Malaria transmission risk maps were provided by the Malaria Atlas Project (MAP). Funding was provided through a grant to the Global Health Group from the Exxon Mobil Corporation.

The Malaria Elimination Initiative at the Global Health Group of the University of California, San Francisco (www.globalhealthsciences.ucsf.edu/global-health-group) convenes the Malaria Elimination Group (www.malariaeliminationgroup.org), and supports countries actively pursuing elimination at the endemic margins of the disease. Funding for the Malaria Elimination Initiative is provided by the Bill & Melinda Gates Foundation and Exxon Mobil Corporation.

The Malaria Atlas Project (MAP) provided the malaria transmission maps. MAP is committed to disseminating information on malaria risk, in partnership with malaria endemic countries, to guide malaria control and elimination globally. Find MAP online at: www.map.ox.ac.uk.