

Country profile of Uzbekistan

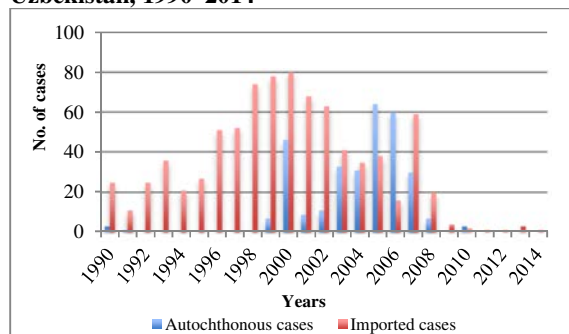
Malaria was eliminated in Uzbekistan in 1961, and only one autochthonous *Plasmodium vivax* case occurred up to 1999, when local *P. vivax* transmission was re-established. It was interrupted again in 2011, and the country is now in the “prevention of malaria reintroduction” phase.

The main malaria vectors are *Anopheles superpictus* (the most efficient vector), *An. pulcherrimus*, *An. maculipennis*, *An. hyrcanus* and *An. claviger*.

Short history of malaria and malaria control

Malaria was formerly widespread in Uzbekistan. An elimination programme was launched in 1946, and local transmission had ceased by 1961. Nevertheless, the borders with Afghanistan and Tajikistan remained vulnerable to resumption of transmission, and sporadic cases of *P. vivax* and two outbreaks (1966 and 1967) were reported in the Baysun district and surrounding areas and in Surkhan-Darya in subsequent years. The situation changed dramatically in 1994, when a large-scale epidemic occurred in neighbouring Tajikistan. The number of imported malaria cases increased sharply in Uzbekistan in 1998–2000, almost all in the region of Surkhan-Darya in the south of the country, resulting in the occurrence of autochthonous cases of *P. vivax* after 1999 (Fig. 1) (1–4).

Fig. 1 Officially registered malaria cases in Uzbekistan, 1990–2014



Sources: references 2,5–7

Malaria situation between 2000 and the present

The number of cases increased to 126 in 2000, of which 46 were indigenous *P. vivax* cases occurring in the Surkhan-Darya region bordering Afghanistan and Tajikistan. Reinforced control and surveillance resulted in a gradual drop in both autochthonous and imported cases from 2001 (Fig. 1); however, a rise in the number of indigenous cases was seen in 2003–2006, with 33, 31, 64 and 60 cases, respectively. Thereafter, the number of cases in Surkhan-Darya Province was reduced from 81 cases in 2007 (29 indigenous cases; incidence, 3.1 per 100 000 population) to 0 in 2011–2014. The last three indigenous *P. vivax* cases were detected in 2010. The total number of cases over the period dropped from 77 in 2001 to 1 (imported) in 2014.

In 2000–2014, 432 cases were imported from endemic areas, with a predominance of *P. vivax* infections (97.92%, 423 cases) and 9 cases of *P. falciparum* (imported from Africa and Asia). This finding raises concern, as it is known that *P. vivax* readily adapts to local malaria vectors. No local transmission of *P. falciparum* has occurred so far.

Strategies, policies and interventions

In 2000, the Ministry of Health set up a national programme for malaria surveillance and control to reduce malaria transmission and limit its distribution. A variety of interventions resulted in a steady, dramatic decrease in the malaria burden. The main interventions included:

- vector control and entomological monitoring, with indoor residual spraying, larval control (*Gambusia affinis*) in 6500 *Anopheles* habitats and water reservoirs covering 20 000 ha and environmental management;
- scaled-up surveillance with active and passive case detection, improved laboratory support, free radical treatment of malaria, comprehensive, prompt investigation of cases and foci, recording and timely reporting;
- mass drug administration in active malaria foci;
- capacity-building and deployment of mobile teams to provinces bordering Tajikistan; and
- health education (1).¹

The National Public Health Service and the Malaria Programme benefited from technical and financial support from the WHO Regional Office for Europe. Support from the Global Fund to Fight AIDS, Tuberculosis and Malaria in rounds 4 and 8 was of key importance.

The positive results in malaria control encouraged the country to undertake a programme for malaria elimination. Uzbekistan endorsed the Tashkent Declaration (8) in 2005 and prepared a national strategy and plan of action for malaria elimination in accordance with WHO recommendations (9–12), which was endorsed by the Ministry of Health in 2011 (13).

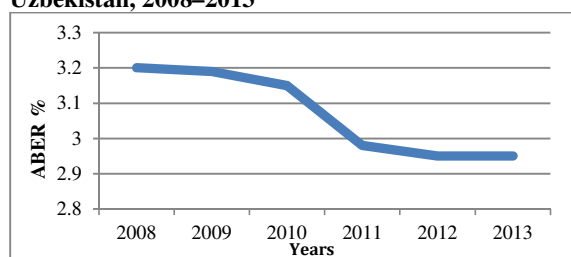
The goal of the elimination programme was to interrupt local transmission countrywide, clear up malaria foci and reduce the number of locally acquired cases to zero. Uzbekistan acted to prevent onward transmission from existing cases by:

- reducing human–vector contact and the vectorial capacity of local *Anopheles* mosquito populations in active foci by effective vector control, personal protection and environmental management;
- identifying and treating all malaria cases with antimalarial medicines effective against liver-stage and blood-stage parasites, including gametocytes;
- strengthening passive and active case detection (Fig. 3);

¹ Unpublished information from the Ministry of Health

- quality-assured laboratory diagnosis;
- prompt, effective, free treatment of positive cases;
- case investigation and follow-up;
- epidemiological investigation of foci to determine their origin, extent and classification;
- entomological surveys by district surveillance teams;
- awareness-raising of communities and populations;
- meteorological monitoring and analyses of weather conditions and climatic trends;
- improving and maintaining malaria expertise;
- health promotion;
- cross-border cooperation; and
- operational research.

Fig. 2. Annual blood examination rates (ABERs), Uzbekistan, 2008–2013



Sources: references 5–7,14–16

Prevention of reintroduction of malaria

An action plan for prevention of malaria reintroduction was prepared and approved by the Ministry of Health (17). The main aspects of the programme are: maintenance of malaria surveillance at a satisfactory level in order to detect malaria cases rapidly and take the necessary action; monitoring persisting levels of receptivity and vulnerability; early case detection, with special attention to identifying imported cases by vigilant surveillance, a competent general health service and strong support from quality assurance laboratories; and a strong information system, with obligatory notification and reporting of malaria and timely epidemiological investigation of each case and focus.

Outlook

Once malaria has been eliminated, a well-organized surveillance system and maintenance of activities at a satisfactory level are crucial for preventing reintroduction of malaria transmission. Any weakness will obviate a prompt response of the system to changes in receptivity and vulnerability, which could lead to epidemic outbreaks.

Experience during the period of malaria control and elimination shows that, while Uzbekistan is free of malaria, the activities and financial allocations to malaria should be maintained, and the activities outlined in the plan for prevention of malaria reintroduction should be continued.

Uzbekistan is highly committed to applying for WHO certification as a country free of malaria in the coming years.

References

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