

WHO Global Malaria Programme

Q&A on malaria elimination and eradication

November 2010

What is the difference between malaria elimination and malaria eradication?

Malaria elimination is defined as interrupting local mosquito-borne malaria transmission in a defined geographical area, i.e. zero incidence of locally contracted cases. Malaria eradication is defined as the permanent reduction to zero of the worldwide incidence of malaria infection caused by a specific agent; i.e. applies to a particular malaria parasite species.

Does WHO support the idea of malaria elimination?

WHO has always supported – and will always continue to support – endemic countries in their efforts to control and eliminate malaria. WHO advises countries considering malaria elimination to undertake a rigorous scenario planning exercise that considers the epidemiological and entomological situation, programmatic capacity, financial resources, political commitment, and potential threats to success such as war and mass migration.

Some countries currently considering elimination have high malaria transmission potential and/or frequent importation of new cases, and may not yet have sufficiently robust surveillance systems to identify residual or resurgent foci of malaria, and therefore to succeed with elimination.

How does WHO keep track of malaria elimination in countries?

WHO maintains a list of countries in various phases of elimination, which is published in the annual *World Malaria Report*. Currently, 18 countries are in the pre-elimination or elimination phases, and an additional 7 countries are working to prevent re-introduction of malaria. Four of these countries (Armenia, Egypt, Oman, and Syria) recently achieved zero annual cases and aim to maintain that situation, i.e. pre-certification. Three others (Bahamas, Jamaica, and the Russian Federation) are generally considered non-endemic but experienced outbreaks of local transmission subsequent to importation of malaria parasites.

WHO maintains Standard Operating Procedures for the certification of malaria elimination at the country level. Two countries (Morocco and Turkmenistan) were certified in 2010 by the WHO Director General as free of malaria; certification procedures are ongoing for Armenia.

Does WHO support the idea of malaria eradication?

Global malaria eradication remains the ultimate goal for WHO and all malaria endemic countries. Eradicating malaria will require sustained long-term investments to fully scale-up today's tools while at the same time investing in the research required to develop tomorrow's transformative tools. Eradicating malaria is a long-term goal that will likely take 40 years or more to achieve.

Is there any conflict between controlling malaria now and aiming for eventual malaria eradication?

En route to the ultimate goal of malaria eradication there are opportunities for tremendous public health successes. There are still 863 000 deaths from malaria annually. This is completely unacceptable for a disease that is both preventable and treatable. In 2010, with the tools we have available, no one should die from malaria. Scaling up these tools is estimated to have saved nearly 750 000 lives in Africa alone over the past decade, with three quarters of those since 2006, when scale-up of interventions began in earnest. Eradicating malaria will require long-term investments to fully scale-up and maintain coverage with today's tools while at the same time investing in the research required to develop tomorrow's transformative tools.

Can malaria elimination and eradication be achieved without a vaccine?

It is unlikely that malaria can be eradicated without a vaccine or another transformative tool that can be used in areas of intrinsically high malaria transmission. However, we can make tremendous progress with the tools we have today: prevention with insecticide treated mosquito nets and indoor residual spraying, diagnosis with rapid diagnostic tests, and treatment with artemisinin-based combination therapy or ACTs. It is entirely feasible to eliminate malaria from countries and regions where the intensity of transmission is low to moderate, and where health systems are strong. Eliminating malaria from countries where the intensity of transmission is high and stable, such as in tropical Africa, will require more potent tools and stronger health systems than are available today.

What is needed to eliminate malaria from countries today?

Malaria elimination, given the tools available today, requires sustained and specialized work in settings where it is achievable. The defining aspects of successful malaria elimination are programmatic: detection and investigation of all malaria cases; prevention of onward transmission; management of malaria foci; and management of importation of malaria parasites.

Malaria elimination requires a range of complementary health system investments – all in an environment of declining and often negligible malaria burden:

- 1) **Financial:** accurate costing of malaria control activities and analysis of malaria expenditures so that resources match requirements;
- 2) **Logistics:** ensuring timely procurement of quality-assured commodities, and improving supply chain management;
- 3) **Human resources:** developing, sustaining and supervising a skilled cadre of malaria staff (including vector control specialists) at national, district, and local levels;
- 4) **Regulation:** strengthening quality control of commodities and services in both private and public sectors, including appropriate regulatory policies and enforcement mechanisms;
- 5) **Diagnostics:** guaranteeing universal access to diagnostic confirmation of suspected malaria cases and ensuring quality assurance of malaria diagnostic services to sustain required laboratory skills;
- 6) **Surveillance:** ensuring timely and accurate collection, reporting, and analysis of malaria cases as an integral part of national health management information systems; building response capacity based on malaria surveillance; and conducting routine monitoring of drug and insecticide resistance.

Is WHO optimistic about being able to raise the necessary funds for malaria elimination and eradication, given the current economic climate?

Over the past decade the global annual investments in malaria control have increased from less than US\$ 0.2 billion in 2000 to US\$ 1.6 billion in 2009. This still falls far short of the approximately US\$ 6 billion dollars annually that are required to fully implement effective malaria control interventions as well as provide the necessary funding for research and development of new tools.

Malaria elimination is costly and takes time, so financial savings should not be a primary rationale for pursuing elimination. Malaria elimination should be seen as a long-term investment rather than a quick win. Reaching malaria targets and demonstrating impact in achieving the health-related Millennium Development Goals will promote further investments by governments and funding agencies in malaria control and elimination as sound investments for public health.

What more can be done to support malaria elimination?

Most malaria control programmes remain woefully understaffed, especially at the district level, where there are few workers to gather, interpret, and act on malaria surveillance data. There is an urgent need to build endemic country capacity not only to manage malaria control and elimination programmes, but also to conduct basic, applied, and operational malaria research. Malaria researchers remain scarce in many malaria-endemic countries.

With sufficient investment, today's young scientists in endemic countries will become tomorrow's stewards of malaria elimination and eradication.

What guidance does WHO provide to countries regarding malaria elimination?

WHO has the following documents available to guide countries in their efforts to eliminate malaria:

Malaria elimination; a field manual for low and moderate endemic countries
(http://whqlibdoc.who.int/publications/2007/9789241596084_eng.pdf)

Global malaria control and elimination: report of a technical review
(http://whqlibdoc.who.int/publications/2008/9789241596756_eng.pdf)

It is the continuing duty of WHO Global Malaria Programme to convene the best global malaria experts to develop evidence-based policies and technical guidance which support all countries, including those which have successfully reduced transmission to the point where malaria elimination is potentially achievable.

For further information:

Dr Aafje Rietveld, Global Malaria Programme, World Health Organization, 20 avenue Appia, 1211 Geneva 27, Switzerland, e-mail: rietvelda@who.int, www.who.int/malaria