Guidance on malaria elimination

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• New guidance for malaria elimination developed in 2017

• The *Framework for malaria elimination* encourages all countries to accelerate towards malaria elimination, in line with the *Global technical strategy for malaria 2016–2030*

• Highlights programme actions across the continuum of transmission intensity from high to zero and prevention of re-establishment
All countries can accelerate towards elimination from wherever they lie on the malaria transmission continuum.

Programme actions (in a country or region) will vary across the spectrum of transmission intensity.

Stratification is the process of classifying geographical areas or localities according to epidemiological, ecological, social and economic determinants to guide malaria interventions.

Annual or biannual audits, stratification and operational planning, with anticipation of transitions to new strata, is critical to accelerating progress.
<table>
<thead>
<tr>
<th>Principles of Malaria Elimination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Elimination is a country-owned and country-led process</td>
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<td><strong>2.</strong> Elimination requires significant political will, sufficient budget, skilled human resources, strong leadership and effective coordination</td>
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<td><strong>3.</strong> Elimination requires intensification and focusing of effective and timely interventions based on high-quality, real-time surveillance data at the most granular level possible</td>
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<td><strong>4.</strong> Subnational areas can move towards elimination at different paces within the same country</td>
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<td><strong>5.</strong> Operational research to improve guidance and implementation is an essential component of an elimination strategy</td>
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<td><strong>6.</strong> Elimination in countries and overseas territories is recognized through WHO certification</td>
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<td><strong>7.</strong> Post-elimination, countries must implement measures to prevent re-establishment until there is global eradication of malaria</td>
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</tbody>
</table>
Guidelines for elimination

4 PREVENTION

4.2.6 Mass drug administration (MDA)
   4.2.6.3 MDA to reduce transmission of *P. falciparum* in very low to low transmission settings

6 INTERVENTIONS IN THE FINAL PHASE OF ELIMINATION AND PREVENTION OF RE-ESTABLISHMENT

6.1 Intervention recommended for mass implementation in delimited geographical areas

6.2 Interventions targeting infections in people at higher risk

6.3 Interventions in response to detection of confirmed malaria cases
Additional interventions for elimination

Countries or areas that have attained very low to low levels of transmission require additional interventions in order to eliminate malaria. These interventions should:

• accelerate the decline in malaria transmission to a level at which intensive surveillance, i.e. follow-up of every case, is feasible;
• target specific groups at increased risk of infection that may not be reached adequately through routine prevention and treatment services; and
• respond to individual cases and foci to interrupt transmission.
Mass, Targeted and Reactive Strategies for Elimination

Mass strategies
applied to the entire population of a delimited geographical area, whether a hamlet, township or district

Targeted strategies
target specific groups at increased risk of infection that may not be reached adequately through routine prevention and treatment services

Reactive strategies
respond to individual cases and foci to interrupt transmission
Mass Drug Administration

MDA to reduce transmission of *P. falciparum* in very low to low transmission settings is **recommended**

- The effect wanes within 1-3 months
- **Other components of a robust malaria elimination programme should be in place to reduce the risk of resurgence**
- Considered for areas with limited risk of importation.
- Should not divert the resource of other essential components of an elimination programme
- The frequency of rounds and duration of the MDA programme should consider the local malaria epidemiology, the length of the prophylactic period provided by the antimalarial used, and the feasibility and cost of delivering each additional round.

Mass testing and treatment

MTaT to reduce the transmission of malaria is **not recommended**.

- MTaT has a very limited beneficial impact on malaria prevalence and incidence
- Resources required to implement this strategy are considered large.

However, WHO’s conditional recommendation against MTaT notes that there may be exceptional circumstances under which MTaT might be appropriate, such as in very low transmission settings where MDA is not an acceptable or feasible strategy.

Mass strategies are generally not recommended for post-elimination settings unless there is a resumption of local transmission of malaria.
Targeted drug administration

Targeted drug administration to reduce transmission of malaria is **recommended**

- Persons given antimalarials should be those with increased risk of infection.
- Factors identifying individuals or groups at increased risk of infection should be easy to recognize.
- *P. vivax*: carefully consider how to safely and feasibly administer treatment to prevent relapses.
- Avoid stigmatizing groups at increased risk of infection.
- Additional complementary strategies to eliminate or prevent re-establishment of malaria transmission should be in place.

Targeted testing and treatment

TTaT to reduce transmission of malaria is **not recommended**

- Likely impact of TTaT on malaria transmission in very low to low or post-elimination settings is trivial
- Challenges with detecting very low parasite densities and a lack of diagnostics for hypnozoites.

*The GDG noted that there may be limited circumstances under which targeted testing and treatment (TTaT) could be beneficial. For example, TTaT could be used when people at a higher risk of infection can be easily identified and chemoprevention is not acceptable to the population. Additionally, TTaT could be used if safe and effective implementation of radical cure to prevent *P. vivax* relapses is only feasible for those with confirmed infections.*
Testing and treatment at points of entry to reduce importation of malaria

Routine malaria testing and treatment at points of entry is **not recommended**

- No studies of the impact of testing and treatment at points of entry on the rate of malaria importation were found, so no direct evidence
- Impact on importation of malaria was likely to be small
- Acceptability and feasibility of testing and treating for malaria at points of entry would be low given the likely disruption to travel.

Malaria testing and treatment of **organized or identifiable groups** arriving or returning from malaria-endemic areas is **recommended**

- Testing and treatment of positive of organized or identifiable groups of people (e.g. military, migrant laborers or religious pilgrims) can help countries nearing elimination or preventing re-establishment by reducing importation.
- Acceptability and feasibility of this strategy is considered higher than routine TaT at points of entry

In post-elimination settings, preventing infections in non-immune residents travelling to malaria-endemic areas through chemoprophylaxis would likely be a more effective approach than treating them upon return. 

*International travel and health*  
[https://www.who.int/health-topics/travel-and-health#tab=tab_1](https://www.who.int/health-topics/travel-and-health#tab=tab_1)
Reactive drug administration

Reactive drug administration for reducing malaria transmission is **recommended**

- Capacity to conduct case investigations at the residence to determine the likely location of infection and to identify those individuals co-exposed with the index case.
- Capacity to enumerate and provide antimalarials to the people residing with or near a confirmed malaria case and others that share the same risk of infection.
- People given antimalarial medicine should share the same risk of having acquired infection as the index case.
- If the infection was imported and the residence is not located in a receptive area, there may be no benefit from RDA.

Reactive case detection and treatment

Reactive case detection and treatment to reduce transmission of malaria is **recommended**

- Until an area is nearing elimination or is post-elimination, it is unlikely that RACDT will have any effect on malaria transmission.
- RACDT becomes an essential component of surveillance when countries are nearing interruption of transmission to monitor progress towards elimination.
- When countries are post-elimination and working towards certification, RACDT can strengthen a country’s claim that it has reached and maintained zero indigenous cases.
- RACDT is an essential part of surveillance and response to prevent re-establishment of malaria.
Reactive indoor residual spraying

Reactive indoor residual spraying is recommended

➢ Proactive IRS can be substituted by reactive IRS only
➢ Adding reactive IRS on top of proactive IRS should balance the potential added benefit with increasing cost and the risk of insecticide resistance.
➢ If no IRS is occurring, initiating reactive IRS may be beneficial.
➢ If the index infection was imported and the residence is not located in a receptive area, there may be no benefit from reactive IRS.
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>For / Against</th>
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</thead>
<tbody>
<tr>
<td>MDA to reduce transmission of <em>P. falciparum</em></td>
<td>For</td>
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<tr>
<td>MTaT to reduce transmission of malaria</td>
<td>Against</td>
</tr>
<tr>
<td>TDA to reduce transmission of malaria</td>
<td>For</td>
</tr>
<tr>
<td>TTaT to reduce transmission of malaria</td>
<td>Against</td>
</tr>
<tr>
<td>Routing malaria testing and treatment at points of entry to reduce importation</td>
<td>Against</td>
</tr>
<tr>
<td>MTaT of organized or identifiable groups at points of entry to reduce importation of malaria</td>
<td>For</td>
</tr>
<tr>
<td>RDA to reduce malaria transmission</td>
<td>For</td>
</tr>
<tr>
<td>RACDT to reduce transmission of malaria</td>
<td>For</td>
</tr>
<tr>
<td>Reactive indoor residual spraying to prevent or reduce transmission of malaria</td>
<td>For</td>
</tr>
</tbody>
</table>
How to access WHO malaria guidance

1. WHO Global Malaria Programme website
2. MAGICapp
3. WHO Malaria Toolkit app
Conditional recommendation for, Very low certainty evidence

Targeted drug administration to reduce transmission of malaria (2022)

In areas with very low to low transmission or post-elimination settings preventing re-establishment of transmission, antimalarial medicine can be given as chemoprevention to people with increased risk of infection relative to the general population to reduce transmission.

- Persons given antimalarials should be those with increased risk of infection compared to the general population and their infections should constitute a large proportion of the parasite reservoir in the area.
- The factors identifying individuals or groups at increased risk of infection should be easy to recognise, thereby improving the acceptability and feasibility of the intervention.
- Programmes considering implementing targeted drug administration for *P. vivax* should carefully consider how to safely and feasibly administer treatment to prevent relapses.
- Care should be taken to avoid stigmatizing groups at increased risk of infection.
- Additional complementary strategies to eliminate or prevent re-establishment of malaria transmission should be in place.
Malaria elimination course

English

French

Spanish

Arabic

https://openwho.org/courses/malaria-elimination
Thank you