



The role of mass drug administration, mass screening and treatment, and focal screening and treatment for malaria

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RECOMMENDATIONS

Over the past decade, mass drug administration (MDA) and other approaches to mass screening and treatment have received increasing interest in the context of malaria elimination and, more recently, in emergency situations such as the Ebola epidemic in West Africa. MDA consists in the administration of a full dose of antimalarial treatment, irrespective of the knowledge of symptoms or presence of infection, to an entire population in a given area, except those in whom the medicine is contraindicated. Mass screening and treatment (MSAT) and focal screening and treatment (FSAT) for malaria require testing all people in a broad or defined geographical area and treating only positive cases.

MDA is conducted in a coordinated manner, so that the drug is taken at approximately the same time by the whole population at risk, often at repeated intervals. The objectives of MDA can be to reduce or interrupt transmission, to rapidly reduce malaria morbidity and mortality, or to prevent relapses and resulting malaria transmission.

In the context of transmission reduction, MDA aims to provide therapeutic concentrations of antimalarial drugs to as large a proportion of the population as possible in order to cure asymptomatic infections and to prevent re-infection during the period of post-treatment prophylaxis. To impact on transmission, MDA requires high coverage of the target population which, in turn, demands a high level of community participation and engagement.

MDA rapidly reduces the prevalence and incidence of malaria in the short term. However, if the transmission of malaria is not interrupted or its importation not prevented, transmission eventually returns to its original level once MDA is terminated, unless the vectorial capacity is reduced and maintained at a very low level during the post MDA period. If malaria is not eliminated, MDA may provide a significant selective pressure for the emergence of drug resistance, particularly in the case of *Plasmodium falciparum*. For this reason, it should not be started unless there is a good chance that elimination is feasible in the area where it is being administered.

Exceptions to this are when MDA is used in emergency situations where the primary aim is to prevent morbidity and mortality rather than interrupt transmission. In some circumstances (e.g. elimination of multidrug-resistant *P. falciparum*), elimination of only one species may be the objective.

RECOMMENDATIONS

Based on a recent evidence review (1), the WHO Malaria Policy Advisory Committee made the following recommendations on the role of MDA, mass screening and treatment and focal screening and treatment for malaria:

1. Use of MDA for the elimination of *P. falciparum* malaria can be considered in areas approaching interruption of transmission where there is good access to treatment, effective implementation of vector control and surveillance, and a minimal risk of re-introduction of infection.
2. Given the threat of multidrug resistance and the WHO call for malaria elimination in the Greater Mekong subregion (GMS), MDA may be considered as a component of accelerated malaria elimination efforts in areas of the GMS with good access to treatment, vector control and surveillance.
3. Use of time-limited MDA to rapidly reduce malaria morbidity and mortality may be considered for epidemic control as part of the initial response, along with the urgent introduction of other interventions.
4. Use of time-limited MDA to reduce malaria morbidity and mortality may be considered in complex emergencies, during exceptional circumstances when the health system is overwhelmed and unable to serve the affected communities.
5. In the absence of sufficient evidence, WHO does not recommend the use of MDA in situations other than for areas approaching elimination, epidemics, and complex emergencies, as specified above (see 1–4).
6. Mass primaquine prophylactic treatment, requiring pre-seasonal MDA with daily administration of primaquine for two weeks without G6PD testing, is not recommended for the interruption of vivax transmission.
7. Mass screening and treatment and focal screening and treatment for malaria are not recommended as interventions to interrupt malaria transmission.
8. Medicines used for MDA must be of proven efficacy in the implementation area and preferably have a long half-life. WHO recommends that a medicine different from that used for first line treatment be used for MDA. Programmes should include monitoring of efficacy, safety and the potential emergence of resistance to the antimalarial medicines deployed for MDA.
9. WHO supports the need for more research on the optimum methods of implementing MDA programmes, promoting community participation and compliance with treatment, and evaluating their effectiveness. Modelling can help guide the optimum method of administering MDA in different epidemiological circumstances and predict its likely impact.

REFERENCES

1. The report available on the WHO-GMP website at <http://www.who.int/malaria/mpac/mpac-sept2015-erg-mda-report.pdf>



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