

1 **SUPPLEMENTAL DATA**

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3 **Development of Systematic Reviews to Inform World Health Organization's Recommendations**
4 **for Elimination and Prevention of Re-establishment of Malaria: Methodology**

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16 **Abbreviations**

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18 MDA Mass drug administration

19 MRP Mass relapse prevention

20 MTaT Mass testing and treatment

21 RACDT Reactive case detection and treatment

22 RDA Reactive drug administration

23 RIRS Reactive indoor residual spraying

24 TDA Targeted drug administration

25 TTaT Targeted testing and treatment

26 TTaT at POE Targeted testing and treatment at points of entry

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28 **Supplemental Table 1. Information Sources and Search Terms**

INFORMATION SOURCES			
	Bibliographic databases	Other relevant databases	Conference proceedings
All reviews	MEDLINE (PubMed), EMBASE (Ovid), Cochrane Library	WHO Archives, US National Institute of Health Ongoing Trials Register (clinicaltrials.gov), ISRCTN registry, WHO's International Clinical Trials Registry Platform (WHO ICTRP), MESA Track	
MDA	Global Health (OVID), CINAHL (EbscoHost), Scopus	ProQuest Natural Science Collection, Tropical Diseases Bulletin	Seventh Multilateral Initiative on Malaria Pan-African Malaria Conference
MRP			
MTaT	LILACS	ZETOC, Armed Forces Pesticide Management Board	Johns Hopkins Bloomberg School of Public Health Future of Malaria Research Symposium, Keystone/MESA Symposium, Women in Malaria Conference, Doctors Without Borders Scientific Days 2021, Asia Pacific Malaria Elimination Network (APMEN) Journal Clubs (TechTalks), 6th Southern Africa Malaria Research Conference
TDA			
TTaT			
TTaT at PoE			
RACDT	Global Health (OVID), CINAHL (EbscoHost), Scopus		Seventh Multilateral Initiative on Malaria Pan-African Malaria Conference
RDA			
RIRS			
SEARCH TERMS			
MDA	Malaria, antimalarials, mass chemoprophylaxis, mass drug administration, mass administration, mass screening and treatment, antimalarial agent		
MRP	[Same as MDA]		
MTaT	Malaria, antimalarials, falciparum, vivax, ovale, Plasmodium, malariae, mass test and treat, mass testing and treatment, MTAT, mass screening, screening, screened, diagnosed, diagnostics, test, mass, case detection, PACD, ACD, population-wide, community-wide, test, treat, screen, household screen, community case management, CCM, monthly screening and treatment, MSAT		

TDA	Malaria, falciparum, vivax, ovale, Plasmodium, malariae, antimalarials, disease eradication, elimination, tailored intervention, treatment, strategy, administration, relapse prevention, presumptive treatment, therapy, focal drug administration, focal MDA, targeted intervention, treatment, strategy, administration, forest-goers, forests, vulnerable, worksites, farm, plantation, mining, miner, miners, laborers, cultivators, military, armed forces, military personnel, peace-keepers, agricultural, high-risk population, risk factors, special populations, high exposure, highly exposed, high transmission, hotspot
TTaT	Malaria, falciparum, vivax, ovale, Plasmodium, malariae, antimalarials, disease eradication, elimination, tailored intervention, treatment, strategy, administration, relapse prevention, presumptive treatment, therapy, focal drug administration, focal MDA, focal testing and treatment, FTAT, targeted intervention, treatment, strategy, administration, forest-goers, forests, vulnerable, worksites, farm, plantation, mining, miner, miners, laborers, cultivators, military, armed, forces, military personnel, peace-keepers, agricultural, high risk population, risk factors, special populations, high exposure, highly exposed, high transmission, hotspot, diagnostic techniques, procedures, screening, screened, diagnosed, diagnostics, test, point-of-care testing, rapid diagnostic test, RDT, parasitological diagnosis, parasitologic test, symptom screening, case detection, PACD, ACD
TTaT at PoE	Malaria, falciparum, vivax, ovale, Plasmodium, malariae, antimalarials, disease eradication, elimination, tailored intervention, treatment, strategy, administration, relapse prevention, presumptive treatment, therapy, focal drug administration, focal MDA, targeted intervention, treatment, strategy, administration, diagnostic techniques, procedures, screening, screened, diagnosed, diagnostics, test, point-of-care testing, rapid diagnostic test, RDT, parasitological diagnosis, parasitologic test, symptom screening, case detection, PACD, ACD, borders, frontier, immigration, immigrant, migrant, point of entry, cross-border, mobile population, returning worker, mobile worker, emigration, immigration, border crossing, travel, travel
RACDT	Malaria, screen, treat, test, treat, focal, foci, index, contact, reactive, detect, passive, administration, MDA
RDA	[Same as RACDT]
RIRS	Malaria, indoor, residual, spray, in-door, residual, pirimiphos-methyl, vector control, focal, IRS, reactive, index, close contact

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31 **Supplemental Table 2. Potential Effect Modifiers**

MDA	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) in the area Antimalarial medication used, including gametocytocide or hypnozoiticide</p>
MTaT	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) of the index cases Antimalarial medication used, including gametocytocide or hypnozoiticide Whether or not screening for symptoms used before testing Limit of detection and sensitivity of the test</p>
MRP	<p>Level of transmission Vector control coverage Medication used (Primaquine or Tafenoquine) Use of G6PD testing to guide administration of medication <i>P. vivax</i> strain (temperate vs. tropical) Timing of the intervention (before vs. during transmission season)</p>
TDA	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) in the area Antimalarial medication used, including gametocytocide and hypnozoiticide</p>
TTaT	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) in the area Antimalarial medication used, including gametocytocide and hypnozoiticide Whether or not screening for symptoms used before testing Limit of detection and sensitivity of the test</p>
TTaT at POE	<p>Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) in the area Antimalarial medication used, including gametocytocide and hypnozoiticide Low vs. high ratio of imported to indigenous cases Limit of detection and sensitivity of the test</p>
RACDT	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) of the index cases Antimalarial medication used, including gametocytocide or hypnozoiticide Whether or not screening for symptoms used before testing Limit of detection and sensitivity of the test Size or population of intervention area around the confirmed case</p>
RDA	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) of the index cases Antimalarial medication used, including gametocytocide or hypnozoiticide Size or population of intervention area around the confirmed case</p>
RIRS	<p>Level of transmission Vector control coverage Malaria parasite species (<i>Pf</i>, <i>Pv</i>, <i>Po</i> or <i>Pm</i>) of the index case</p>

	Size or population of intervention area around the confirmed case Vector species
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33 **Supplemental Table 3. GRADE Criteria¹**

Certainty	Interpretation
Very low	The authors believe that the true effect is likely to be markedly different from the estimated effect
Low	The authors believe that the true effect might be markedly different from the estimated effect
Moderate	The authors believe that the true effect is probably close to the estimated effect
High	The authors have a lot of confidence that the true effect is similar to the estimated effect

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35 **Supplemental Table 4. Categorization of Effect Sizes**

Species and transmission level	Effect size	Absolute difference in prevalence	Absolute difference in annual incidence
<i>Plasmodium falciparum</i> – Very low to low	Little to no	0 to 0.03% (0-0.3 per 1000)	0 to 3 per 1000 person-year
	Slight or some (public health value threshold)	0.04% to 0.1% (0.4 to 1 per 1000)	4 to 10 per 1000 person-year
	Large	>0.1% (>1 per 1000)	> 10 per 1000 person-year
<i>Plasmodium falciparum</i> – Moderate to high	Little to no	0 to 10% (0 to 100 per 1000)	0 to 250 per 1000 person-year
	Slight or some (public health value threshold)	10 to 20% (100 to 200 per 1000)	250 to 333 per 1000 person-year
	Large	>20% (>200 per 1000)	>333 per 1000 person-year
<i>Plasmodium vivax</i>	Little to no	0 to 5% (0 to 50 per 1000)	0 to 125 per 1000 person-year
	Slight or some (public health value threshold)	5% to 10% (50 to 100 per 1000)	125 to 250 per 1000 person-year
	Large	>10% (>100)	>250 per 1000 person-year

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37 **Supplemental Table 5. Summary of Findings Statements Criteria.** Adapted from Santesso
 38 et al.²

	Certainty			
Effect Size	High	Moderate	Low	Very Low
Large	X results in a large reduction/increase in outcome	X likely/probably results in a large reduction/increase in outcome	X may result in a large reduction/increase in outcome	The evidence is very uncertain about the effect of X on outcome
Sight or some	X results in a slight reduction/increase in outcome	X likely/ probably results in a slight reduction/ increase in outcome	X may reduce/increase outcome slightly	
Little or no	X results in little to no difference in outcome	X likely/ probably results in little to no difference in outcome	X may result in little to no difference in outcome	

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40 **References**

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