

**Background brief on the proposed targets and estimated costs of implementation
of the draft global technical strategy for malaria (2016-2030)**

19 December 2014

Following a request by Member States, WHO is providing further details of the methodology that was used to set the proposed milestones and targets for the *Draft global technical strategy for malaria (2016-2030)*, and some background on the assumptions behind the estimates on the costs of strategy implementation.

1. Methodology used for the proposed goals, milestones and targets

The proposed goals, milestones and targets are described in paragraph 18 of the draft strategy and shown below:

Vision	A world free of malaria		
Goals	Milestones		Targets
	2020	2025	2030
1. Reduce malaria mortality rates globally compared with 2015	≥40%	≥75%	≥90%
2. Reduce malaria case incidence globally compared with 2015	≥40%	≥75%	≥90%
3. Eliminate malaria from countries in which malaria was transmitted in 2015	At least 10 countries	At least 20 countries	At least 35 countries
4. Prevent re-establishment of malaria in all countries that are malaria-free	Re-establishment prevented	Re-establishment prevented	Re-establishment prevented

The milestones and targets are put forward as *global* in nature and should be achieved *collectively* by all endemic countries by 2020, 2025 and 2030, respectively. While the milestones and targets may not be appropriate for all national contexts, they are recommended to be used as a benchmark in all countries where the malaria burden is high. Without substantial progress in those countries, it will be challenging to achieve the strategy's goals.

WHO took into account three sources of information in developing the proposed goals, milestones and targets:

1. **A country-by-country review of previous trends in malaria cases.** Between 2000 and 2012, 59 countries provided sufficiently complete and consistent data to assess trends in malaria case incidence. These countries provide an indication of the rate at which malaria incidence can be reduced with existing tools and strategies. The

median reduction in malaria cases among the 59 countries was 66% over the 12-year period, equivalent to 5.5% per year. If similar rates of reduction were to occur over the period 2016-2030, malaria case incidence would decrease by 82%.

2. **A review of national targets on malaria burden reduction and elimination, as set by national malaria programmes in their strategic plans.** We assembled all available national strategic plans and analysed the targets set by national governments. Most national targets refer to the achievement of “zero indigenous cases” nationally or in a number of states/ areas within a country by a certain year. The years for which national malaria targets have been set range from 2016 to 2030.
3. **Mathematical modelling of *P. falciparum* malaria transmission, performed by Imperial College, London.** A complex modelling exercise was conducted to estimate the potential impact of applying malaria interventions in different combinations, at different speeds. The modelling looked at four scenarios: 1) coverage rates are sustained at current levels, 2) accelerated scale-up of interventions, 3) highly accelerated scale-up of interventions, and 4) reversal in coverage rates.

Following a review of all three elements, and taking into account feedback received from Member States during regional consultations on the draft strategy, it was concluded that the milestones and targets should be built around scenario 3 of the above modelling exercise, i.e. the highly accelerated scale-up of interventions. According to this scenario, it is *technically feasible* to achieve the milestones for 2020 and 2025 using existing tools. However, while further reductions in malaria incidence and mortality rates are anticipated beyond 2025, attainment of a 90% reduction by 2030 will require innovations in tools and approaches.

Box. Scale up of intervention coverage envisaged under Scenario 3.

By 2020:

- increase coverage with long-lasting insecticidal nets to 80% of the population at risk;
- ensure that 80% of confirmed malaria cases are treated with an ACT in the public sector, and these levels are maintained thereafter;
- ensure that 50% of confirmed malaria cases are treated with an ACT in the private sector and at community level;
- ensure 80% coverage with seasonal malaria chemoprevention (for children under five years of age), in countries where this therapy is recommended;
- administer intermittent preventive treatment to 80% of pregnant women (using all four recommended doses) in countries where this is recommended;
- switch from quinine to injectable artesunate for all severe hospitalized cases.

By 2025:

- scale up coverage with long-lasting insecticidal nets to 90% of the population at risk;
- ensure that 90% of confirmed malaria cases are treated with an ACT in the public sector, and these levels are maintained thereafter;
- ensure that rectal artesunate is provided in 50% of non-hospitalized severe cases, with continued increase to 75% by 2030;
- ensure 95% coverage with seasonal malaria chemoprevention (for children under five years of age), in countries where this therapy is recommended.

2. Assumptions used for generating cost estimates for strategy implementation

Paragraph 103 of the draft strategy describes the estimated global costs of implementation. According to the latest available figures, global malaria investments totalled US\$ 2.7 billion in 2013. To achieve the proposed reduction in the malaria burden by 2030 (i.e. the scenario explained above), international and domestic investments will need to be increased significantly in the coming years.

The costs of implementing the strategy were estimated from the quantities of goods required for expanding interventions, multiplied by the estimated unit cost for the delivery of each intervention, and an analysis of financing data available in national strategic plans. The costs have been estimated for 80 countries with stable malaria transmission and 17 countries with unstable transmission and/ or in pre-elimination, elimination or the prevention of re-introduction phases.

By 2020, an estimated US\$ 6.5 billion will be required annually to meet the first milestone of a 40% reduction in malaria incidence and mortality rates. Annual investments will then need to be further increased to an estimated US\$ 8 billion per year by 2025 to meet the second milestone of a 75% reduction. To achieve the 90% reduction goal, total annual malaria spending will need to reach an estimated US\$ 9 billion by 2030. The increase in costs from an annual \$ 6.5 billion in 2020 to an annual \$ 9 billion by 2030 is due to multiple factors:

- the cost of vector control, chemoprevention, and diagnostic testing is estimated to increase due to a projected growth in the population at risk (about 40% increase in the number of people at risk between 2016 and 2030);
- the cost of disease surveillance is expected to rise as additional surveillance activities will be needed as countries move towards elimination, including case investigation and active case detection;
- the cost of insecticide resistance management are expected to rise as non-pyrethroid products are increasingly adopted.

The cost of treatment is expected to decrease over time, reflecting a reduction in cases owing to the impact of expanded preventive interventions.

In the period 2026–2030, the WHO African Region will continue to require the largest proportion of malaria funding. According to our estimates, 60% of the required annual investment of US\$ 8 billion will be required for this region in 2025.

In addition to the costs of implementation, we looked at the funding needs for research and development – which is a core component of Pillar 2 of the draft strategy. Additional funding of an average of US\$ 673 million (range: US\$ 524 million – 822 million) will be needed annually for this segment. This estimate stems from a risk-adjusted portfolio model of malaria research and innovation needs until 2030.

We were unable to predict the impact that future tools or approaches may have in the short or medium term. We were also unable to predict the degree to which drug and insecticide resistance could reduce the effectiveness of existing interventions, or how the costs of commodities or interventions may change at the global or national levels. There is therefore considerable uncertainty associated with the estimates.