World Health Organization

Annex 2. Glossary

WHO update of malaria terminology
August 2015, Geneva, Switzerland

Diagnosis and Treatment

Adherence	Compliance with a regimen (chemoprophylaxis or treatment), or with procedures and practices prescribed by a health care worker.
Adverse drug reaction	A response to a medicine that is noxious and unintended, and which occurs at doses normally used in man.
Adverse event	Any untoward medical occurrence in a person exposed to a biological or chemical product, and that does not necessarily have a causal relationship with this product. *Note:* As part of malaria interventions, adverse events can be reported following treatment with antimalarial medicines and/or exposure to insecticides. The standard definition under ICH GCP guidelines refers to pharmaceutical products only.
Adverse event, serious	Any untoward medical occurrence in a person exposed to a biological or chemical product, and which does not necessarily have a causal relationship with this product, and results in death, requires or prolongs inpatient hospitalisation, generates significant disability/incapacity or is life-threatening.
Antimalarial medicine	A pharmaceutical product, used in humans for the prevention or treatment or reduction of transmission of malaria.
Artemisinin-based combination therapy (ACT)	A combination of an artemisinin derivative with a longer-acting antimalarial that has a different mode of action.
Case management	Diagnosis, treatment, clinical care, counselling, and follow-up of symptomatic malaria infections.
Cerebral malaria	Severe *P. falciparum* malaria with coma (Glasgow coma scale < 11, Blantyre coma scale < 3) persisting for > 30 min after a seizure. *Note:* Initial neurologic symptoms of cerebral malaria are drowsiness, confusion, failure to eat or drink and convulsions (see current WHO definition of severe malaria - http://apps.who.int/iris/bitstream/10665/79317/1/9789241548526_eng.pdf)

Chemoprevention, Seasonal Malaria	The intermittent administration of full treatment courses of an antimalarial medicine during the malaria season with the objective to prevent malarial illness, by maintaining therapeutic antimalarial drug concentrations in the blood throughout the period of greatest malarial risk. *Note:* This intervention is only recommended for areas with highly seasonal malaria, where transmission occurs during a few months of the year.
Chemo-prophylaxis	Administration of a medicine, AT PREDEFINED INTERVALS typically in sub-therapeutic doses, to prevent either the development of an infection or the progression of an infection to a manifest disease. *Note:* The word chemoprevention as used in seasonal malaria chemoprevention refers to the administration of a full curative treatment course, as opposed to chemoprophylaxis which usually involves the administration of sub-therapeutic doses.
Combination therapy	A combination of two or more classes of antimalarial medicine with unrelated mechanisms of action.
Cure	Elimination from an infected person of all malaria parasites that caused an infection. *Note:* When applied to *P. vivax* and *P. ovale* the terms is equivalent to radical cure.
Cure, radical	Elimination of both blood-stage infection and latent liver infection in P. vivax and P. ovale infections, thereby preventing relapses. *Note:* Term used only for *P. vivax* and *P. ovale* infections to emphasise the need to use anti-hypnozoite medicines.
Cyto-adherence	Propensity of malaria infected erythrocytes to adhere to the endothelium of microvasculature of internal organs of the host.
Diagnosis	The process of establishing the cause of an illness (for example, a febrile episode), including both clinical assessment and diagnostic testing.
Diagnosis, molecular	Use of nucleic acid amplification-based tests to detect the presence of malaria parasites.
Diagnosis, parasite-logical	Diagnosis of malaria by detection of malaria parasites or plasmodium-specific antigens or genes in the blood of an infected individual.
Dosage regimen (or treatment regimen)	Information on formulation, route of administration, dose, dosing interval and treatment duration of a medicine.
Dose	Quantity of a medicine to be taken at one time or within a given period of time. The quantities of antimalarial medicines should be expressed as a base (when applicable) and fractions of a gram or milligrams.

Dose, loading	One or a series of doses that may be given at the onset of therapy with the aim of achieving the target concentration rapidly.
Drug efficacy	Capacity of an antimalarial medicine to clear parasites, when administered in recommended doses that are known to be well tolerated and have minimal risk of toxicity.
Drug resistance	The ability of a parasite strain to survive and/or multiply despite the administration and absorption of a medicine given in doses equal to or higher than those usually recommended. *Note:* Drug resistance arises as result of genetic changes (mutations or gene amplification) that confer reduced susceptibility to antimalarial medicines.
Drug safety	Characteristics of a medicine that describe the potential for causing harm, i.e. clinical adverse events (signs, symptoms or diseases), laboratory changes (biochemistry, hematology), or other physiological changes (e.g. ECG) when administered at the recommended dosage.
Drug, gametocytocide	A drug that kills gametocytes, thus preventing them from infecting a mosquito.
Drug, schizontocide	A drug that kills schizonts, either in the liver (tissue schizonticide) or blood (blood schizonticide).
Erythrocytic cycle	Portion of the life cycle of the malaria parasite from merozoite invasion of red blood cells to schizont rupture. The duration is approximately 24 h in *Plasmodium knowlesi*, 48 h in *P. falciparum*, *P. ovale* and *P. vivax* and 72 h in *P. malariae*.
Fixed-dose combination	A combination in which two antimalarial medicines are formulated together in the same tablet, capsule, powder, suspension or granule.
Gametocytes	Blood-borne sexual stages of malaria parasites that can have the potential to infect anopheline mosquitoes when ingested during a blood meal.
Hyper-parasitaemia	A high density of parasites in the blood, which increases the risk of deterioration of the patient's condition to severe malaria. *Note:* See current WHO current definition: http://apps.who.int/iris/bitstream/10665/162441/1/9789241549127_eng.pdf?ua=1
Hypnozoites	Persistent liver stages of *P. vivax* and *P. ovale* malaria that remain dormant in host hepatocytes for variable periods, usually from 3 weeks to a year (and exceptionally multiple years) before activation and development into a pre-erythrocytic schizont which then causes a blood stage infection (relapse).

Incubation period	Period between inoculation of malaria parasites and onset of clinical symptoms. *Note:* The shortest incubation period in mosquito-borne infections, ranges from 7 days in *P. falciparum* to 23 days in *P. malariae*. Long incubation in *P. vivax* and *P. ovale* is due to activation of hypnozoites and ranges from 3 weeks to a year (and exceptionally multiple years). In blood-induced infections, the incubation period may be shorter than in the sporozoite-induced infection, depending on the size of the inoculum.
Infection, mixed	Malaria infection with more than one species of *Plasmodium*.
Infectious	Capable of transmitting infection, a term commonly applied to the human host.
Infective	Capable of producing infection, a term commonly applied to the parasite (gametocytes, sporozoites, etc.) or to the vector (mosquito).
Intermittent preventive treatment in infants (IPTi)	A full therapeutic course of antimalarial medicine delivered to infants at the time of routine immunization visits, regardless of whether the child is infected with malaria.
Intermittent preventive treatment in pregnancy (IPTp)	A full therapeutic course of antimalarial medicine given to pregnant women at routine prenatal visits, regardless of whether the woman is infected with malaria.
Latent period	For *P.vivax* and *P.ovale* infections, the period between the primary infection and subsequent relapses. this stage is asymptomatic, parasites are absent from the bloodstream, but present in the hepatocytes.
Malaria pigment (haemozoin)	A brown to black granular material formed by malaria parasites as a by-product of haemoglobin digestion. Pigment is evident in mature trophozoites and schizonts. It may also be phagocytosed by monocytes, macrophages and polymorphonuclear neutrophils.
Merozoite	Extracellular stage of the parasite released into the host plasma when a hepatic or erythrocytic schizont ruptures. The merozoites can then invade red blood cells.
Monotherapy	Antimalarial treatment with a single medicine: either a single active compound or synergistic combination of two compounds with related mechanisms of action.
Parasitaemia	Presence of parasites in the blood. *Note:* If this condition is not accompanied by symptoms of malaria, it is known as asymptomatic parasitaemia.
Parasitaemia, asymptomatic	The presence of asexual parasites in the blood without symptoms of illness.

Parasite clearance time	Time elapsing from the first drug administration to the first occasion on which no parasites can be demonstrated in the blood. *Note:* Time depends on the sensitivity of the method used to detect the parasite.
Parasite density	Number of asexual parasites per unit volume of blood or per number of red blood cells. *Note:* Any level of parasite density can lead to clinical illness. However, generally the likelihood of clinical illness increases with increasing parasite density.
Patent period	Period during which malaria parasitaemia is detectable by microscopy.
Plasmodium	Genus of protozoan blood parasites of vertebrates that includes the causal agents of malaria. *P. falciparum*, *P. malariae*, *P. ovale* and *P. vivax* cause malaria in humans. Human infections with the monkey malaria parasite *P. knowlesi* and very occasionally with other simian malaria species may occur in tropical forest areas.
Pre-erythrocytic development	The development of the malaria parasite from the time when it first enters the host until the hepatic schizont ruptures. *Note:* After inoculation into a human by a female anopheline mosquito, sporozoites invade hepatocytes in the host liver and multiply there for a period ranging from 5.5 (*P. falciparum*) to 25 days (*P. malariae*), forming exoerythrocytic schizonts. These then rupture, liberating merozoites into the bloodstream, where they subsequently invade red blood cells. In vivax and ovale infections some sporozoites remain dormant in the liver in the form of hypnozoites for the duration of 3 weeks to 12 months and exceptionally several years.
Pre-patent period	Period of time from inoculation of parasites to the first appearance of parasitaemia.
Prequalification	Process that ensures that key health products are safe, appropriate and meet stringent quality standards for international procurement. *Note:* Prequalification is done by assessing product dossiers, inspecting manufacturing and testing sites, organizing quality control testing in the case of vaccines and medicines, validating the performance of diagnostics, and verifying that the products are suitable for use in the destination countries.
Prophylaxis	Any method of protection from or prevention of disease; when applied to chemotherapy it is commonly termed "chemoprophylaxis ".
Prophylaxis, causal	Complete prevention of erythrocytic infection by destruction of the pre-erythrocytic forms of the parasite.

Rapid diagnostic test	Immuno-chromatographic lateral flow devices for the rapid detection of malaria parasite antigens.
Rapid diagnostic test, combination	Malaria rapid diagnostic test that can detect multiple different malaria species.
Recrudescence	Recurrence of asexual parasitaemia following antimalarial treatment, due to incomplete clearance of asexual parasitaemia of the same genotype(s) that caused the original illness. Recrudescence must be distinguished from re-infection (usually determined by molecular genotyping in endemic areas), and relapse in *P. vivax* and *P. ovale* infections.
Recurrence	Reappearance of asexual parasitaemia after treatment, due to recrudescence, relapse (in *P. vivax* and *P. ovale* infections only) or a new infection.
Reinfection	Infection after initial infection. This is distinguished from recrudescence and relapses on the basis of the parasite genotype that will often (but not always) be different from that causing the initial infection.
Relapse	Recurrence of asexual parasitaemia in *P. vivax* or *P. ovale* infections arising from hypnozoites. *Note:* occurs when the blood-stage infection has been eliminated but hypnozoites persist in the liver and mature to form hepatic schizonts. After an interval, generally from three weeks to one year, the hepatic schizonts rupture and liberate merozoites into the bloodstream.
Ring form (Ring stage, ring stage trophozoite)	Young, usually ring-shaped malaria trophozoites, before malaria pigment is evident by microscopy.
Schizont	Stage of the malaria parasite in host liver cells (hepatic schizont) or red blood cells (erythrocytic schizont) that is undergoing nuclear division by a process called schizogony, and, consequently, having more than one nucleus.
Screening	Process of identifying risk groups that may need further intervention, such as diagnostic testing, treatment or preventive services.
Selection pressure	The force of an external agent that confers preferential survival (e.g. antimalarial medicines on malaria parasites, insecticides on anopheline mosquitoes). *Note:* The term is applicable to human populations as well. As a result of selection pressure induced by malaria certain genetic disorders (e.g. sickle cell anaemia and G6PD deficiency) that reduce the risk of severe malaria are more frequent in malaria endemic areas.
Sensitivity (of a test)	Proportion of people with malaria infection (true positives) who have a positive test result.
Serological assay	Procedure used to detect antimalarial antibodies in the serum.
Severe anaemia	Haemoglobin concentration of < 5 g/100 mL (haematocrit < 15%).

Severe falciparum malaria	Acute falciparum malaria with signs of severe illness and/or evidence of vital organ dysfunction. *Note:* See current WHO definition (http://apps.who.int/iris/bitstream/10665/79317/1/9789241548526_eng.pdf)
Single dose regimen	Administration of a medicine as a single dose to achieve a therapeutic objective.
Specificity (of a test)	Proportion of people without malaria infection (true negatives) who have a negative test result.
Sporozoite	Motile stage of the malaria parasite that is inoculated by a feeding female anopheline mosquito and may cause infection.
Testing, malaria	The use of a malaria diagnostic test to determine whether an individual has malaria infection.
Tolerance	A response in human or mosquito host that is less than expected to a given quantum of infection, toxicant or drug.
Treatment failure	Inability to clear malarial parasitaemia or prevent recrudescence following the administration of an antimalarial medicine, regardless of the resolution of clinical symptoms.
Treatment, anti-relapse	treatment aimed at killing hypnozoites and thereby preventing relapses or late primary infections of *P. vivax* or *P. ovale*.
Treatment, directly observed (DOT)	Treatment administered under the direct observation of a health care worker.
Treatment, first-line and second-line	First-line treatments are those recommended in the national treatment guidelines as the medicine of choice to treat uncomplicated malaria. Second-line treatments are those used for treatment failures that occur with the use of first-line treatment, or if the patient is allergic or unable tolerate the first-line treatment.
Treatment, presumptive	Administration of an antimalarial drug or drugs, to suspected malaria cases without testing or before the results of blood examinations are available. *Note:* This is not generally recommended by WHO as it may lead to wrong treatment of the underlying disease. All suspected malaria cases should be confirmed by a parasitological test.
Treatment, radical	Treatment to achieve complete cure. This only applies to vivax and ovale infections and consists of the use of medicines that destroy both blood and liver stages of the parasite.
Trophozoite	The stage of development of malaria parasites growing within host red blood cells from the ring stage to just before nuclear division. Trophozoites contain visible malaria pigment.

Uncomplicated malaria	Symptomatic malaria parasitaemia without signs of severity or evidence of vital organ dysfunction. *Note:* See current WHO definition (http://apps.who.int/iris/bitstream/10665/79317/1/9789241548526_eng.pdf Higher specificity for definition of malaria associated disease may be achieved with criteria related to degree of fever (e.g. Temp> 37.5°C), and level of parasitaemia (e.g. > 5000 parasites/µL).

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Elimination

Case, confirmed	Malaria case (or infection) in which the parasite has been detected by a diagnostic test, i.e. microscopy, rapid diagnostic test, or molecular diagnostic test. *Note:* On rare occasions, the presence of occult malaria infection in a blood or organ donor is confirmed in retrospect by the demonstration of malaria parasites in the blood or organ recipient.
Case detection	One of the activities of surveillance operations concerned with the search for malaria cases in a community. *Note:* Case detection is a screening process, using as indicator either the presence of fever or epidemiological attributes such as high risk situations or groups. Infection detection includes the use of a diagnostic test to identify asymptomatic persons with malaria infection.
Case detection, active	Detection by health workers of malaria cases at community and household level, sometimes in population groups that are considered at high risk. Active case detection can be conducted as fever screening followed by parasitological examination of all febrile patients or as parasitological examination of the target population without prior fever screening. *Note:* Active case detection may be undertaken in response to a confirmed case or cluster of cases, as screening and testing of a population potentially linked to such cases (referred to as "reactive case detection") or as screening of high risk groups, not prompted by detection of cases (referred to as "proactive case detection").
Case detection, passive	Detection of malaria cases among patients who, on their own initiative, visit health services for diagnosis and treatment, usually for a febrile illness.
Case follow-up	Periodic re-examination of patients with malaria (with or without treatment). *Note:* It may involve blood examination and giving treatment given if not responding to previous medicines. Case follow-up is a part of surveillance.

Case investigation	Collection of information to allow classification of a malaria case by origin of infection, i.e. imported, indigenous, induced, introduced or relapsing. *Note:* Case investigation may include administration of a standardized questionnaire to a person in whom a malaria infection is diagnosed, as well as screening and testing of people living in the same household or surrounding areas.
Case, fever	A persons with fever (current or recent). *Note:* Fever is often used as a screening criterion for performing a diagnostic test in malaria case detection.
Case, imported malaria	Malaria case or infection in which the infection was acquired outside the area in which it is diagnosed.
Case, index	A case whose epidemiological characteristics trigger additional active case or infection detection activities. The term index case is also used to designate the case identified as the origin of infection of one or a number of introduced cases.
Case, indigenous	A case contracted locally with no evidence of being imported or being directly linked to transmission from an imported case.
Case, induced	A case whose origin can be traced to a blood transfusion or other form of parenteral inoculation of the parasite but not to transmission by a natural mosquito-borne inoculation. *Note:* in controlled human malaria infections used in malaria research, the parasite infection (challenge) may originate from inoculated sporozoites, blood or infected mosquitoes.
Case, introduced	A case contracted locally, with strong epidemiological evidence linking it directly to a known imported case (a first generation local transmission).
Case, locally acquired (autochthonous)	A case acquired locally by mosquito-borne transmission *Note:* Note that locally acquired cases can be indigenous, introduced or relapsing. the term "autochthonous" is not commonly used.
Case, malaria -#1	Occurrence of malaria illness/disease in a person in whom the presence of malaria parasites in the blood has been confirmed by a diagnostic test. *Note:* A malaria case can be classified as suspected, presumed, confirmed (based on the level of confirmatory diagnosis) and as indigenous, induced, introduced, imported, relapsing (based on the origin of infection).

Case, malaria - #2	Occurrence of malaria infection with or without illness/disease in a person in whom the presence of malaria parasites in the blood has been confirmed by a diagnostic test. *Note:* A malaria case can be classified as indigenous, induced, introduced, imported, relapsing (based on the origin of infection).
Case, presumed	Suspected malaria case not confirmed by a diagnostic test but nevertheless diagnosed as malaria. Note: The designation of a presumed case is reserved for those uncommon situations where a diagnostic test cannot be performed in a timely manner.
Case, relapsing	Malaria case attributed to activation of hypnozoites of *P. vivax* or *P. ovale* that had been acquired previously (typically during an earlier transmission season) *Note:* The latency period for a relapsing case can be longer than 6-12 months. The presence of relapsing cases is not an indication of operational failure, but their existence should lead to evaluation of the possibility of ongoing transmission.
Case, suspected malaria	Illness suspected by a health worker to be due to malaria, generally based on presence of fever with or without other symptoms.
Certification of malaria-free status	Certification granted by WHO after it has been proved beyond a reasonable doubt that local human malaria transmission by Anopheles mosquitoes has been interrupted in an entire country for at least 3 consecutive years and a national surveillance system and a program for the prevention of reintroduction is in place.
Cluster	Aggregation of relatively uncommon events or diseases in space and/or time in numbers that are believed to be greater than could be expected by chance.
Epidemiological investigation	The study of the environmental, personal and other factors that determine the incidence/prevalence of infection or disease. *Note:* In malaria elimination epidemiological investigation is a part of surveillance operations and is concerned with ascertaining the origin and means of transmission for any malaria cases discovered. It involves epidemiological surveys, localized mass blood examinations and entomological surveys to ascertain the existence and nature of any malaria foci in the surrounding areas, to establish whether transmission is taking place and, if it is, its source and potential for spread.

Focus, malaria	A defined and circumscribed area situated in a currently or formerly malarious area that contains the epidemiologic and ecological factors necessary for malaria transmission. *Note:* Foci can be classified as endemic, residual active, residual non-active, cleared up, new potential, new active or pseudo focus.
Geographical reconnaissance	An activity including census and mapping to determine the distribution of the human population and other features relevant for malaria transmission in order to guide interventions. *Note:* It provides the basis for the selection of field centres and depots, for designing schedules and itineraries of operations, planning deployment of transport, and assessing completion of planned activities. Geographical reconnaissance can also be used to define as accurately as possible the geographical limits of malaria endemic areas and assess epidemic potential.
Infection chronic	Long-term presence of parasitaemia that is not causing acute or obvious illness, but can potentially be transmitted.
Infection, reservoir of	Any person or animal in which plasmodium lives and multiplies, such that it can be transmitted to a susceptible host.
Infection, submicroscopic	Low-density blood stage malaria infections that are not detected by conventional microscopy.
Malaria control	Reduction of disease incidence, prevalence, morbidity, or mortality to a locally acceptable level as a result of deliberate efforts. Continued intervention efforts are required to sustain control.
Malaria elimination	Interruption of local transmission (reduction to zero incidence) of a specified malaria parasite in a defined geographic area as a result of deliberate efforts. Continued measures to prevent re-establishment of transmission are required.
Malaria eradication	Permanent reduction to zero of the worldwide incidence of infection caused by human malaria parasites as a result of deliberate efforts. Intervention measures are no longer needed once eradication has been achieved.
Malaria Infection	Presence of *Plasmodium* parasites in blood or tissues, confirmed by diagnostic testing. *Note:* Diagnostic testing could include: microscopy, malaria rapid diagnostic testing or nucleic acid-based amplification methods (e.g. PCR assays for detecting parasite DNA or RNA).
Malaria risk stratification	Classification of geographical areas or localities according to factors determining the receptivity and vulnerability to malaria transmission.

Malaria stratification	Classification of geographical areas or localities according to the epidemiological, ecological, social and economic determinants for the purpose of guiding malaria interventions.
Malaria-free	An area in which there is no continuing local mosquito-borne malaria transmission and the risk for acquiring malaria is limited to introduced cases only.
Malaria-free	An area in which there is no continuing local mosquito-borne malaria transmission and where the risk for acquiring malaria is limited to introduced cases only.
Mass drug administration (MDA)	The administration of antimalarial treatment to every member of a defined population or geographical area (except in those in whom the medicine is contraindicated), at approximately the same time and often at repeated intervals. *Note:* MDA is usually performed for the purpose of greatly reducing the parasite reservoir of infection and thus transmission in a population.
Mass screen and drug administration	Screening an entire population for risk factors and treating individuals with risk factors, except in those in whom the medicine is contraindicated. *Note:* An example is seasonal malaria chemoprevention where age is the screening criterion to identify the target group that is then treated.
Mass screen, test, and treat	Screening an entire population for risk factors, testing individuals with risk factors and treating those with a positive test result.
Mass screening	Population-wide assessment of risk factors for malaria infection leading to the identification of subgroups for further intervention such as diagnostic testing, treatment, or preventive services.
Mass test and treat	Testing an entire population and treating individuals with a positive test result.
Mass test and focal drug administration	Testing a population and treating groups of individuals or entire households after detecting one or more infections in the group or household.
Population, target	The population in an implementation unit that is targeted for activities or services (e.g., prevention, treatment)
Preventive chemo-therapy	Use of medicines either alone or in combination to prevent the consequence of malaria infections. *Note:* It includes chemoprophylaxis, intermittent preventive treatment of infants, pregnant women, seasonal malaria chemoprevention and mass drug administration.

Reactive focal (screening, testing, treating, or drug administration)	In response to the detection of an infected person, applying screening, testing, treating, or drug administration, respectively to a subset of the population or a focus.
Transmission, interruption of	Cessation of mosquito-borne transmission of malaria in a geographical area as a result of the application of antimalarial measures.
Transmission, re-establishment of	Renewed presence of a measurable incidence of locally acquired malaria infection due to repeated cycles of mosquito-borne infections in an area in which the transmission had been interrupted. *Note:* A minimum indication of the possible re-establishment of transmission would be the occurrence of three or more introduced and/or indigenous malaria infections in the same focus, for two consecutive years for *P. falciparum* and for three consecutive years for *P. vivax*.

References – Elimination

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Surveillance

Age groups	Subgroups of a population classified by age. The following age-grouping is usually recommended: • 0-11 months • 12-23 months • 2-4 years • 5-9 years • 10-14 years • 15-19 years • 20 years and over *Note:* reporting on age groups can be modified as appropriate to local transmission issues whereby certain age groups may be of specific interest (e.g., for passive immunity or assessment of ongoing transmission 0-5 months and 6-11 months; young migrant work force age 20-29 or older; elderly group >60years of age due to risk of complications).
Basic reproduction number	The number of secondary cases that single infection (index case) would generate in a completely susceptible population (referred to as R_0). *Note:* The term "Adjusted reproduction number" or R_c is reproduction number in the presence of a range of interventions in place, e.g. ITNs, IRS, access to treatment.
Case notification	Compulsory reporting of all malaria cases by medical units and medical practitioners, to either the health department or the malaria control programme, as prescribed by national laws or regulations.
Catchment area	A geographic area defined and served by a health programme or institution, such as a hospital or community health centre, which is delineated on the basis of population distribution, natural boundaries, and transport accessibility.
Coverage	A general term referring to the fraction of the population of a specific area which receives a particular intervention.
Endemic area	An area in which there is an ongoing, measurable incidence of malaria infection and mosquito-borne transmission over a succession of years.
Endemicity, levels of	Degree of malaria transmission in an area. *Note:* Various terms have been used to designate levels of endemicity, but none of them are fully satisfactory. Parasite rate or spleen rate in children (2-9 years) have been used to define different levels of endemicity, i.e. hypoendemic: 0-10%; mesoendemic: 10-50%, hyperendemic: constantly over 50%, and holoendemic: constantly over 75% with low adult spleen rate and parasite density declining rapidly between 2 and 5 years of age.

Epidemic	Occurrence of malaria cases highly in excess of the number expected in a given place and time. *Note:* Seasonal increases of malaria should not be confused with epidemics.
House	Any structure other than a tent or mobile shelter in which humans sleep
Household	The ecosystem embracing people and animals occupying the same house and the accompanying vectors.
Incidence, malaria	Number of newly diagnosed malaria cases during a defined period of time in a specified population.
Index, parasite-density	Mean parasite density of slides examined and found positive in a sample of the population; calculated as the geometric mean of the individual parasite density counts
Malaria prevalence (parasite prevalence)	Proportion of the population with malaria infection at one point in time in a specified population.
Malaria, cross-border	Malaria transmission associated with the movement of individuals or mosquitoes across borders.
Malariometric survey	Survey conducted in a representative sample of selected age-groups to estimate the prevalence of malaria and coverage of different interventions. *Note:* Current standard for such surveys is the Malaria Indicator Survey or related Demographic and Health Surveys or Multiple Indicator Cluster Surveys.
Malarious area	Area in which transmission of malaria is taking place, or in which transmission has been present during the preceding three years. *Note:* Initial malarious area in the area where malaria transmission was known to occur in historic time.
National focus register	Centralized database of all foci of malaria infection in a country that includes relevant data on physical geography, parasites, hosts and vectors for each focus.
National malaria case register	Centralized database with line listing of individual records of all malaria cases registered in a country.
Population at risk	Population living in a geographical area where locally acquired malaria cases occurred in the past three years.
Rate, annual blood examination	The number of people receiving a parasitological test for malaria per unit population per year.
Rate, cure	Percentage of treated individuals who no longer have asexual parasites detectable in their blood.

Rate, gametocyte	Percentage of individuals in a defined population in which sexual forms of malaria parasites have been detected. *Note:* This term generally refers to *P. falciparum*. The detection method should be mentioned when citing a gametocyte rate. percentage of cases of falciparum malaria with gametocytes is an indicator of the timeliness of diagnosis and treatment of malaria
Rate, importation	The number of malaria infections per unit time and per unit population that are brought into a particular area from another area
Rate, malaria mortality	Number of deaths from malaria per unit of population over a certain period.
Rate, rapid diagnostic test positivity	Proportion of positive results among all rapid diagnostic tests performed.
Rate, slide positivity	Proportion of blood smears -found to be positive for Plasmodium among all blood smears examined.
Receptivity	Ability of an ecosystem to allow transmission of malaria. *Note:* The ecosystem requires presence of competent vectors, suitable climate, susceptible population, etc.
Risk, importation	Probability of influx of infected individuals and/or infective anophelines. *Note:* Also referred to as vulnerability.
Risk, reintroduction	The risk that endemic malaria will be re-established in a specific area, following its elimination. *Note:* The risk is typically determined by a variety of factors including: climate, altitude, vector populations, human susceptibility, socio-economic status, urban/rural, and intervention coverage, and other factors.
Surveillance	Ongoing, systematic collection, analysis and interpretation of disease-specific data and use in planning, implementing and evaluating public health practice. *Note:* Surveillance can be carried out at different levels of the health care system (e.g. health facility-based, community-based), and using different detection systems (e.g. case-based, active, passive), and sampling strategies (e.g. sentinel sites, surveys).

Transmission intensity	The frequency with which people living in an area are bitten by anopheline mosquitoes carrying human malaria sporozoites. *Note:* Transmission intensity is often expressed as the annual entomological inoculation rate (EIR), which is the average number of inoculations with malaria parasites estimated to be received by one person by time period. Due to the difficulty in measuring IER, parasite rate in young children is often used as a proxy for transmission intensity.
Transmission season	Period of the year during which mosquito-borne transmission of malaria infection usually takes place.
Transmission, perennial	Transmission that occur throughout the year without great variation in intensity.
Transmission, seasonal	Transmission that occurs only during some months and is markedly reduced during other months.
Transmission, stable	Epidemiologic type of malaria transmission characterized by a steady prevalence pattern that does not show great variations from one year to another, except as the result of rapid scale-up of malaria interventions or exceptional environmental changes affecting transmission. *Note:* In areas with stable transmission, the affected population often shows high levels of immunity, and malaria vectors usually have high longevity and man-biting rates.
Transmission, unstable	Epidemiological type of malaria transmission characterized by high variation in prevalence patterns from one year to another. *Note:* In areas with unstable transmission epidemics are common and the population usually shows low levels of immunity.
Vigilance	A function of the public health services aimed at preventing reintroduction of malaria .Vigilance consists of close monitoring for any occurrence of malaria in receptive areas, and application of the necessary measures to prevent the re-establishment of transmission.
Vulnerability	The frequency of influx of infected individuals or groups and/or infective anophelines. *Note:* Also referred to as importation risk. The term can also be applied to introduction of drug resistance to a specific area.

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Vector control

aestivation	A process by which mosquitoes at one or several stages (eggs, larvae, pupae, adult) survive by means of behavioural and physiological changes during periods of drought or high temperature.
age, physiological	Adult female mosquito age in terms of the number of gonotrophic cycles completed: nulliparous, primiparous, 2-parous, 3-parous et seq. *Note:* assessed by age-grading, instead of days.
Age-grading of mosquito female adults	Classification of female mosquitoes according to their physiological age (number of gonotrophic cycles) or simply as nulliparous or parous (parity rate). *Note:* Age-grading of vectors is performed mainly to assess impact of environmental changes (natural or intended for control) on vector populations. In epidemiological studies, age-grading of vectors is used to estimate their mean probability of survival – a key variable to calculate the basic reproduction number R_0 and vectorial capacity.
Age-grading of mosquito larvae	classification of mosquito larvae as instars (development stages) 1, 2, 3, 4
Anopheles, infected	Female Anopheles with detectable malaria parasites.
Anopheles, infective	Female Anopheles with sporozoites in the salivary glands.
Anopheline density	Number of female anophelines in relation to the number of specified shelters or hosts (e.g., per room, per trap, or per person) or to a given time period (e.g., overnight or per hour), specifying method of collection. *Note:* Strictly the population density or abundance of adult female Anopheles mosquitoes. Anopheline density is a very insensitive measure of malaria transmission
Anthropophilic	Descriptive of mosquitoes that show a preference for feeding on humans, even when non-human hosts are available. *Note:* A relative term requiring quantification to indicate the extent of preference for anthropophily, versus zoophily. Usually expressed as the human blood index (proportion of mosquitoes that have fed on humans out of total fed).

Bioassay	In applied entomology, the experimental testing of the biological effectiveness of a treatment (e.g. infection, insecticide, pathogen, predator, repellent) by deliberately exposing insects to it. *Note:* When bioassays are employed for periodically monitoring the continued efficacy of residual insecticide deposits on sprayed surfaces in houses (as for IRS), attention should be given to the environmental conditions and possible adverse factors (e.g. washing, re-plastering, soot) affecting the intertidal deposits on treated surfaces; these factors may reduce effectiveness of the treatment differently from the intrinsic rate of decay of the insecticide.
Capture site	Site selected for periodic sampling of the mosquito population of a locality for various evaluation purposes.
Diapause	Condition of suspended animation or temporary arrest in development of immature mosquitoes.
Endophagy	Tendency of mosquitoes to blood-feed indoors. *Note:* Contrasted with exophagy.
Endophily	Tendency of mosquitoes to rest indoors. *Note:* Contrasted with exophily; usually quantified as proportion resting indoors versus outdoors, for purposes of assessing IRS impact and vector potential.
Exophagy	Tendency of mosquitoes to feed outdoors. *Note:* Contrasted with endophagy; usually quantified as the proportions biting hosts outdoors versus indoors, conveniently assessed by comparative human landing catches (HLC) outdoors and indoors, or by observation of biting rates on non-human hosts outdoors.
Exophily	Tendency of mosquitoes to rest outdoors. *Note:* Contrasted with endophily; usually quantified as proportion resting outdoors versus indoors, for estimating outdoor transmission risks.
Experimental huts	For vector investigations: simulated house with entry and exit traps for sampling mosquitoes entering and exiting, blood-feeding indoors (when host present), surviving or dying in each sub-sample, per day or night. *Note:* Experimental huts are employed for standard protocols to evaluate indoor treatments (IRS and ITNs) against endophilic mosquitoes.

Gonotrophic cycle	Each complete round of ovarian development in the female mosquito, usually after ingestion of a blood meal, to yield a batch of eggs. Gonotrophic harmony is when every blood meal results in one batch of eggs from the gonotrophic cycle. *Note*: Temperature and other environmental factors affect duration of the gonotrophic cycle, taking a few days or weeks, strongly influencing vectorial capacity. Before completion of the first gonotrophic cycle, the adult female mosquito is nulliparous; after laying eggs she is parous; after successive gonotrophic cycles she is primiparous, 2-parous, 3-parous, 4-parous, et seq.
Gonotrophic discordance (gonotrophic dissociation)	Female mosquitoes taking more than one bloodmeal per gonotrophic cycle.
hibernation	Process by which mosquitoes at one or several stages (eggs, larvae, pupae, adult) survive by means of behavioural or physiological changes during cold periods.
House-spraying	Application of liquid insecticide formulation to specified (mostly interior) surfaces of buildings.
Human Landing Catches (HLC)	A method for collecting vectors as they land on individuals. *Note:* Purpose is to monitor exposure of the human population to vector populations. Employed for estimating the 'human biting rate' a basic factor to calculate R_0 and vectorial capacity in epidemiological studies.
Index, host preference	Proportion of blood-fed female Anopheles that fed on the host species and/or individual of interest. *Note:* Blood-fed female Anopheles are sampled from representative resting sites and each blood meal is identified to host species or individual. The methods include 'precipitin testing' and molecular assays.
Index, human blood (HBI)	Proportion of mosquito blood meals from humans.
Indoor residual spraying (IRS)	Operational procedure and strategy for malaria vector control: spraying interior surfaces of dwellings with a residual insecticide to kill or repel endophilic mosquitoes
Indoors	Inside any shelter likely to be used by humans or animals, where mosquitoes may feed or rest. *Note:* Where indoor-resting mosquitoes can be targeted for indoor residual spraying.

Insecticide	Chemical product (natural or synthetic) that kills insects: ovicide kills eggs; larvicide (larvacide) kills larvae; pupacide kills pupae; adulticide kills adult mosquitoes; residual insecticide remains active for prolonged time. *Note:* For malaria vector control, insecticides are approved by the World Health Organization Pesticides Evaluation Scheme (WHOPES) – see http://www.who.int/whopes/
Insecticide cross-resistance	Resistance to one insecticide by a mechanism that also confers resistance to another insecticide, even where the insect population has not been selected by exposure to the latter.
Insecticide discriminating dose, or diagnostic dose for resistance	Amount of an insecticide (usually expressed as the concentration per standard period of exposure) which, in a sample of mosquitoes containing resistant individuals, distinguishes between susceptible or resistant phenotypes and determines their respective proportions. *Note:* Where the genetic factor for resistance is either dominant or recessive, only one discriminating dose operates. Where it is semi-dominant, two such doses may operate: a lower discriminating dose killing susceptibles only and an upper diagnostic dose killing both susceptibles and heterozygous (but not homozygous) resistant individuals.
Insecticide dosage	Amount of active ingredient insecticide applied per unit area of treatment (mg/m^2) as in indoor residual spraying or treated bednets or per unit of space (mg/m^3) as in space spraying.
Insecticide mixture	Insecticide product consisting of two or more active ingredients mixed as one formulation so that, when applied, the mosquito will contact both simultaneously.
Insecticide mosaic	Strategy for mitigating resistance, whereby insecticides with different modes of action are applied in different parts of an area under coverage (usually in a grid pattern), so that parts of the mosquito populations are exposed TO one while others are exposed to another. *Note:* ideally combined with insecticide rotation whereby the treatments are periodically switched between parts of the mosaic

Insecticide resistance	Property of mosquitoes that can survive exposure to a standard dose of insecticide that may be the result of physiological or behavioural adaptation. *Note:* The emergence of insecticide resistance in a vector population is an evolutionary phenomenon caused either by behavioural avoidance (e.g. exophily instead of endophily) or by physiological factors whereby the insecticide is metabolised, not potentiated, or absorbed less compared to susceptible mosquitoes.
Insecticide rotation	Strategy involving sequential applications of insecticides with different modes of action to delay or mitigate resistance.
Insecticide tolerance	Less than average susceptibility to insecticide, but not inherited as resistance.
Insecticide, contact	Insecticide that exerts a toxic action to mosquitoes when they rest on a treated surface and the insecticide is absorbed via the tarsi (feet).
Insecticide, fumigant	Insecticide which acts through the release of vapour from a volatile substance.
Insecticide, residual	Insecticide which, when suitably applied on a surface, maintains for a considerable time its insecticidal (residual) activity by either contact or fumigant action.
Integrated Vector Managment (IVM)	A rational decision-making process for the optimal use of resources for vector control. *Note:* IVM aims to improve efficacy, cost-effectiveness, ecological soundness and sustainability of vector control activities against vector-borne diseases.
Larval Source Management	Management of aquatic habitats (water bodies) that are potential larval habitats for mosquitoes, in order to prevent the completion of development of the immature stages. *Note:* There are four types of LSM: 1) Habitat modification: a permanent alteration to the environment, e.g. land reclamation; 2. Habitat manipulation: a recurrent activity, e.g. flushing of streams; 3. Larviciding: the regular application of biological or chemical insecticides to water bodies; and 4. Biological control: the introduction of natural predators into water bodies.
Larvicide	Substance used to kill mosquito larvae. *Note:* Larvicides are applied in the form of oils (to asphyxiate larve and pupae) or emulsions, or as small pellets or granules of inert carrier impregnated with insecticide, which is released gradually when they are placed in water.

Net, Insecticide-treated (ITN); **Long-lasting insecticidal net (LLIN)**	Mosquito net that repels, disables or kills mosquitoes that come into contact with the insecticide on the netting material. There are two categories of ITN: − Conventionally treated net: a mosquito net that has been treated by dipping it in a WHO- recommended insecticide. To ensure its continued insecticidal effect, the net should be re-treated periodically. − Long-lasting insecticidal net (LLIN). A factory-treated mosquito net made of netting material with insecticide incorporated within or bound around the fibres. The net must retain its effective biological activity without re-treatment for at least 20 WHO standard washes under laboratory conditions and 3 years of recommended use under field conditions. *Note:* Untreated bednets can also provide substantial protection against mosquito bites, but they have less impact on vectorial capacity and transmission rates.
Oocyst	The stage of malaria parasite developing from the ookinete: the oocyst grows on the outer wall of the midgut in the female mosquito.
Oockine	Motile stage of malaria parasite following fertilization of macrogamete and preceding oocyst formation.
Rate, biting	Average number of mosquito bites received by a host in unit time, specified according to host and mosquito species (usually measured by HLC). *Note:* For human malariology we are mainly interested in the 'human biting rate' of vectors.
Rate, entomological inoculation (EIR)	Number of infective bites received per person in a given unit of time, in a human population. *Note:* It is the product of the "human biting rate" (the number of bites per person per day by vector mosquitoes) and the sporozoite rate (proportion of vector mosquitoes that are infective). At low levels of transmission, the EIR estimates may be less reliable and alternative methods should be considered to evaluate transmission risk.
Rate, oocyst	Percentage of female Anopheles with oocysts on the midgut.
Rate, sporozoite	Percentage of female Anopheles with sporozoites in the salivary glands.
Repellent	Anything causing avoidance by mosquitoes, especially deterring them from settling on skin of the host (topical repellent) or entering an area or room treated with the repellent substance (area repellent, spatial repellent, excito-repellent)

Spray round	Implementation of spraying of all sprayable structures in an area designated for coverage in an IRS programme during a discrete period of time. *Note:* According to the residual activity of the insecticide, but also to the dynamics of transmission one or more spray round a year may be required in the same area.
Sprayable	In malaria vector control program context: a unit (dwelling, house, room, shelter, structure, surface) suitable for spraying, or required to be sprayed. *Note:* Usually in context of house-spraying operations implemented by indoor residual spraying (IRS).
Spraying cycle	Repetition of spraying operations at regular intervals; often designated in terms of the interval between repetitions, e.g., six-month spraying cycle when spraying is repeated after a six-month interval. *Note:* Not to be confused with spray round.
Spraying frequency	Number of regular insecticide applications per house per year, usually by IRS.
Spraying interval	Time elapsing between successive applications of insecticide.
Spraying, focal	Spray coverage by indoor residual spraying and/or space spraying of houses or habitats in a limited geographic area.
Spraying, residual	Spraying interior walls and ceiling of dwellings with a residual insecticide to kill or repel endophilic mosquito vectors of malaria.
Transmission, residual	Persistence of transmission after achieving good coverage with high quality vector control interventions to which local vectors are fully susceptible. *Note:* A combination of human and vector behaviours are responsible for this remaining transmission, for example when people stay outdoors during the night or when local mosquito vector species exhibit one or more behaviours that allow them to avoid the core interventions.
Trap hut	Structure adapted for trapping mosquitoes attracted by bait (human or animal) placed inside it. *Note:* Its purpose is to collect a representative portion of the incoming mosquitoes, and/or to test the effectiveness of an insecticide. It is usually a hut of simple design, often built of the same material as the local habitations, provided with trapping devices-usually one or more window traps so that mosquitos may be trapped as they enter or leave.

Vector	In malaria, female adults of any mosquito species in which Plasmodium undergoes the sexual cycle (therefore, the mosquito is the definitive host of the parasite) to the infective sporozoite stage (completion of extrinsic development) ready for transmission when biting a vertebrate host. *Note:* Malaria vector species are usually implicated (incriminated) by field collection and dissection to prove infection with sporozoites in salivary glands; PCR assays may be applied to detect and identify circum-sporozoite protein, especially where infection rates are low.
Vector competence	For malaria, the ability of the mosquito to support completion of malaria parasite development after zygote formation and oocyst formation, development and release of sporozoites that migrate to salivary glands, allowing successful transmission of viable sporozoites when the infective female mosquito feeds again. *Note:* Human malarias are exclusively transmitted by competent species of Anopheles mosquitoes; other malarias are transmitted by competent species of various genera of mosquitoes (*Aedes, Anopheles, Culex*) or other haematophagous Diptera.
Vector control	Measures of any kind against malaria-transmitting mosquitoes intended to limit their ability to transmit the disease. *Note:* Ideally, malaria vector control results in reduction of malaria transmission rates, due to limitation of vectorial capacity, to the point where transmission is interrupted.
Vector susceptibility	The degree to which the mosquito population is susceptible (i.e. not resistant) to insecticides. *Note:* Not to be confused with vector competence (see definition)
Vector trap	Device designed to capture mosquitoes, using appropriate lures (light, CO_2, living baits, suction) in order to sample their densities or to study effects of attractants, repellents, control interventions; mosquito trapping may also be intended for their control.
Vector, principal	Species of Anopheles mainly responsible for transmitting malaria in any particular circumstances. *Note:* Principal vectors may overlap seasonally or alternate in importance.
Vector, secondary or subsidiary	Species of *Anopheles* thought to play a lesser role in transmission than the principal vector; capable of maintaining malaria transmission at a reduced level.

Vectorial capacity	Number of new infections that the population of a given vector would induce per case per day at a given place and time, assuming the population is and remains fully susceptible.

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Archived terms

Biting-capture, biting collection, human bait collection (HBC)	sampling of population of mosquitoes and other haematophagous insects by capture when they bite on human bait, or other hosts. *Note:* Discouraged for ethical reasons, to prevent human exposure to risks of transmission of vector-borne diseases (VBDs); human landing collection (HLC) is the recommended alternative.
Breeding site, breeding place	Obsolete term for larval habitat: site where developmental stages of mosquitoes (eggs, larvae, pupae) are found; including sites appearing ecologically suitable for particular species.
Cure, clinical	Relief of symptoms of a malaria attack (e.g., by chemotherapeutic action against asexual erythrocytic parasites) without complete elimination of the infection.
Cure, suppressive	Complete elimination of the parasite from the body by means of continuous suppressive treatment.
Discharge register	List of patients who leave inpatient hospital care. Discharge registers should contain the date of admission, patient's name, residence, age, sex, diagnosis, length of stay and reason for leaving (discharged, died, transferred, absconded). This information should be abstracted from the patient file by appropriately trained staff.
Drug failure	Absence or insufficiency of drug action after administration of a normally effective dose. It is important to discriminate between such causes of drug failure as deficient absorption, unusual rate of degradation or excretion of the drug, and resistance of the parasite.
Infection interval	Period elapsing from the time an individual is infected until he himself becomes infectious to others. In malaria the infection interval is the period from the inoculation of a human being with sporozoites until the appearance of gametocytes potentially infective to mosquitos. To be distinguished from incubation interval and incubation period.
Malaria baseline	The malaria burden that would be present in a specific area if no control activities existed. This is also termed 'intrinsic malaria transmission level'.
Malaria, refractory	Term used by some authors to describe persistence or slow and gradual reduction of the amount of malaria despite total-coverage spraying.
Malaria, responsive	Term used by some authors to describe malaria that is rapidly reduced in amount by total-coverage spraying soon after the beginning of the attack phase.

Malaria, sporadic	Term applied to malaria when autochthonous cases are too few and scattered to cause any appreciable effect on the community. These cases are often due to relapses of a previous infection: for purposes of epidemiological classification by origin of infection, the term "relapsing " is then preferred.
Mass blood examination	Examination of the blood of all persons in a unit of the population, which may be repeated at certain intervals. Blood specimens are commonly obtained during house-to-house visits. Unlike other case-detection methods, mass blood examinations are used to discover all persons harbouring malaria parasites, even those who have no clinical symptoms; they thus supplement the routine methods in special problem areas and are useful in demonstrating the proportion of asymptomatic carriers present in the community examined. They form a part of case-detection activities and must be distinguished from malariometric surveys, which are carried out on a sampling basis in selected groups.
Mass primaquine preventive treatment	Administering primaquine anti-relapse therapy to every individual in a defined population or geographical area during the low transmission season for the elimination of long-latency hypnozoites in infected persons with the aim of reducing P. vivax malaria transmission during the next transmission season *Note:* For safety reasons, G6PD testing of the recipients would be required prior to the intervention.
Outbreak	A case or number of cases of locally transmitted infection greater than would be expected at a particular time and place. *Note:* Used instead of epidemic.
Outpatient register	List of patients seen in consultation in a health facility; the register may include the date of consultation; patient's age, place of residence and presenting health complaint; tests performed; and diagnosis.
Phase, attack	In malaria eradication terminology, the phase during which antimalarial measures applicable on a large scale and aiming at the interruption of transmission are applied on a total-coverage basis in an operational area. This phase is sometimes called the period of total coverage spraying
Phase, consolidation	In malaria eradication terminology, the phase that follows the attack phase; it is characterized by active, intense and complete surveillance with the object of eliminating any remaining infections and proving the eradication of malaria. It ends when the criteria for eradication have been met.

Phase, maintenance	In malaria eradication terminology, period which begins when the criteria of malaria eradication have been met in an operational area and which will continue until world-wide eradication has been achieved. During this period vigilance is exercised by the public health services to prevent the spread of malaria imported from across the borders of the area concerned.
Phase, preparatory	In malaria eradication terminology, time devoted to preparation for the attack operations. It ends when the epidemiological and geographical reconnaissance in the operational area are completed, the central and peripheral stations and essential services established, the staff recruited and trained, and the logistic and reporting systems organized.
Population, vulnerable	Groups of people who are particularly vulnerable to malaria infection in certain situations or contexts, such as mobile workers. Each country should define the specific populations that are particularly vulnerable based on the epidemiological and social context.
Population-based blood survey	Survey in which a blood smear taken on one of more occasions from every individual in a given population (i.e. irrespective of history of fever) to assess the prevalence of malaria parasitaemia (both symptomatic and asymptomatic) in the population. These surveys may also be used to provide supportive evidence of the interruption of transmission.
Pre-eradication programme	Preliminary operation undertaken in a country whose general administrative and health services have not yet reached a level which would enable it to undertake a malaria eradication programme.
Pre-eradication survey	Operation aimed at the collection of accurate data on the malaria situation, preliminary to drafting a complete plan of operations for a malaria eradication programme. The undertaking of the survey presupposes the existence of evidence that transmission can be interrupted by the use of methods commonly employed in malaria eradication and the existence of basic operational facilities. The pre-eradication-survey period ends when the plan of operations has been prepared.
Prophylaxis, absolute	Absolute prevention of infection would imply destruction of inoculated sporozoites before they could fix themselves in the tissues.

Prophylaxis, clinical	Clinical prophylaxis implies prevention of clinical symptoms by early destruction of erythrocytic parasites. It is said to suppress malaria when it permits the continued existence of exoerythrocytic forms or of some erythrocytic forms which will permit subsequent multiplication of the para site after discontinuation of the drug. All blood schizontocides are clinical prophylactic drugs or suppressants, since they destroy merozoites entering the blood stream before they can establish schizogony. This results in prevention of erythrocytic infection, or at least in its reduction to a sub patent level, while the drug is being taken, but overt attacks may occur after it is discontinued.
Rate, malaria morbidity	Number of recorded clinical cases of malaria per unit of population over a certain period. The malaria morbidity rate is too imprecise to be of value in malaria eradication.
Rate, parasite	Percentage of persons in a defined age group showing, on a given date, microscopically detectable parasites in the peripheral blood. The parasite rate should always be defined in terms of the age group examined.
Sub-perennial	Transmission occurs throughout the year with peaks of markedly greater intensity in some months.
Surveillance, active	Surveillance where public health officers seek reports from participants in the surveillance system on a regular basis, rather than waiting for the reports (e.g. telephoning each participant monthly). *Note:* A surveillance system in which public health workers seek reports on a regular basis from participants in the surveillance system, rather than waiting passively for the reports to be submitted).
Surveillance, case-based	Every case is reported and investigated immediately and also included in the weekly reporting system. *Note:* Surveillance based on investigating all cases included in the regular reporting system.
Surveillance, community	Surveillance where the starting point for the notification is from community level, normally reported by a community worker. It can be active (looking for cases) or passive (reporting cases). This may be particularly useful during an outbreak and where syndromic case definitions can be used (the active identification of community cases of Ebola virus infection in Kikwit was an example of active community surveillance). *Note:* Surveillance where the starting point for notification is the community level, usually from a community worker. community surveillance can be either active or passive.

Surveillance, hospital-based	Surveillance where the starting point for notification is the identification by a hospital of a patient with a particular disease or syndrome. *Note:* Surveillance where the starting point for notification is the identification by a hospital of a patient with a particular disease or syndrome.
Surveillance, passive	Surveillance where reports are awaited and no attempt are made to seek reports actively from the participants in the system. *Note:* A system in which no attempts are made to seek reports actively from the participants in the system.
Surveillance, sentinel	of data from a sample (random or non-random) of collecting sites as indicator data for the rest of the population, in order to identify cases* of a disease early or to obtain indicative data about trends of a disease or health event*. Examples are the use of a few hospitals to monitor the composition of influenza virus and check that the vaccine includes the right components, or the use of a network of general practitioners to monitor diseases or health events (e.g. attempted suicide, requests for HIV testing). One instance of sentinel surveillance is the use of a particular population group (e.g., monitoring the serology of syphilis among pregnant women as an indicator of syphilis trends in the general population). Sentinel surveillance is inappropriate for those situations where every case requires public health action, e.g., poliomyelitis. Commentary: Collection and use of data from a random or non-random sample (random or non-random) of collecting sites as an indicator data for the rest of the population as a whole, in order to identify cases of a disease early or to obtain indicative data about trends of a disease or health event not malaria specific.
Treatment, suppressive	Treatment aimed at preventing or eliminating clinical symptoms and/or parasitaemia by early destruction of erythrocytic parasites. It does not necessarily prevent or eliminate the infection, and overt malaria may develop after drug withdrawal.
Treatment, targeted	Group-level application of anthelminthic drugs where the group eligible for treatment may be defined by age, sex, or other social characteristics irrespective of infection status (exclusion criteria may apply).
Vector efficiency	imprecise way of ranking vector species or populations as relatively more or less important in transmission Commentary: less calculable than vectorial capacity

Vector potential	Value of vectorial capacity for competent vector species or population. Note: c.f. *potential vectors* are species with vector competence and appreciable vectorial capacity