



**GLOBAL MALARIA
PROGRAMME**



**World Health
Organization**

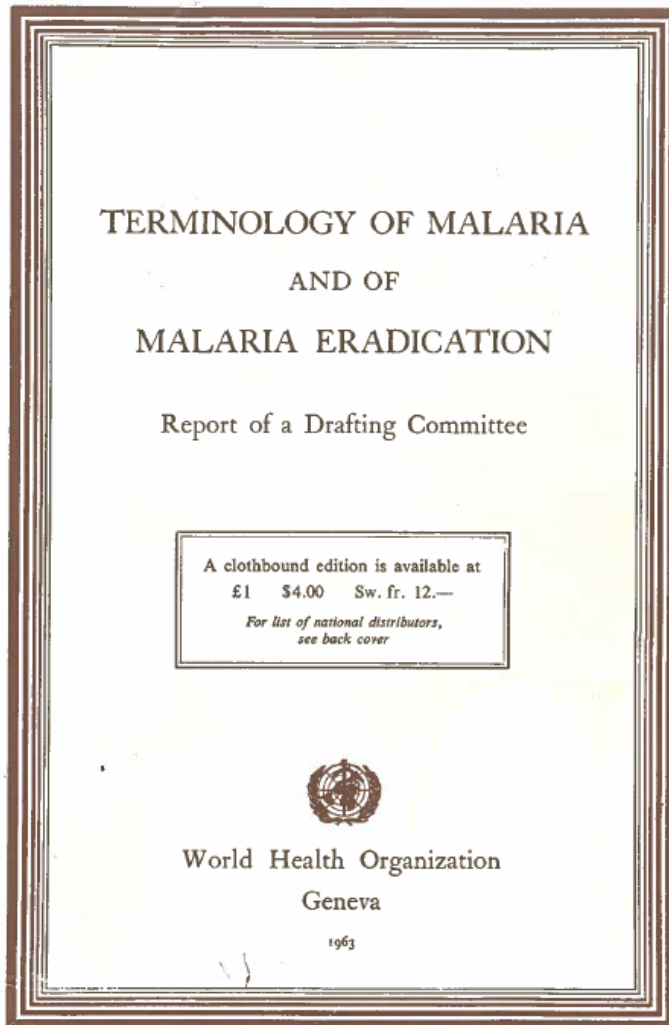
Report of the WHO Drafting Committee on Malaria Terminology

**Malaria Policy Advisory Committee
Geneva, Switzerland
16-18 September 2015**

Rick Steketee
Chairperson, WHO Drafting Committee
on Malaria Terminology

TERMINOLOGY of MALARIA and of MALARIA ERADICATION

Report of a Drafting Committee (1963)



DRAFTING COMMITTEE

Members:

- Arnoldo Gabaldon, M.D., Sc.D., Honorary Consultant, Bureau of Malariology and Environmental Sanitation, Ministry of Health and Social Welfare, Venezuela
- P. C. C. Garnham, M.D., D.Sc., Professor of Medical Protozoology and Director, Department of Parasitology, London School of Hygiene and Tropical Medicine, London, England
- George Macdonald, C.M.G., M.D., Director, Ross Institute, and Professor of Tropical Public Health, London School of Hygiene and Tropical Medicine, London, England
- E. J. Pampana, M.D., Libero Docente, University of Rome, Italy

Secretariat:

- C. A. Alvarado, M.D., Director, Division of Malaria Eradication, WHO
- L. J. Bruce-Chwatt, M.D., Chief, Research and Technical Intelligence, Division of Malaria Eradication, WHO

Background

- In recent years there has been a proliferation of new terms in relation to malaria in the scientific literature, media and technical reports, and an increase in the number of terms that have a new or modified use and meaning (e.g. hotpops, hotspots, malaria sources and sinks, proactive infection detection, reactive infection detection, reactive targeted parasite elimination, network testing, time-location testing, dry season vector control HiFSAT – highly focused screening and treatment).
- To complicate matters further:
 - sometimes term are used to mean different things (e.g. case, screening);
 - sometimes, several similar terms are used to mean similar things (e.g. MSAT, MTAT and MSTAT, FSAT and FTAT, MDA and Targeted Malaria Elimination or Targeted Parasite Elimination or Targeted Chemo-Elimination, mass primaquine preventive (or prophylactic) treatment);
 - some terms are used with different meanings by different public health programmes (e.g. elimination, certification, preventive chemotherapy).

Phased Approach in Updating Terminology

- Terms that were and are still relevant and properly described – each definition or description can be reviewed for any need to update the language, but generally these terms could be considered “good as they stand”.
- Terms that have been used in the past and have value in an historical perspective, but are not really in current use (e.g. the endemicity categories and some of the spraying terminology); these terms may be important to keep for historical purposes, and could simply be updated in language.
- Terms that are relevant today but may have taken on a new and modified use and meaning – these terms need to be reviewed and possibly redefined, or at least updated so that the language of the definition reflects their current use, as well as new terms that have come into use and may need to be included and clearly defined.



Process & Timelines

Desk Review

March - May

WHO
Malaria
Definitions

WHO
Departments
(i.e. NTDs)

Scientific
Literature
Terminology

Priority
Terms

WHO Malaria Terminology Writing Committee

June - August

New &
Updated
Definitions

Final List
Terms &
Definitions



Web-based
consultation

MPAC
Sept

Review

WHO

Drafting Committee

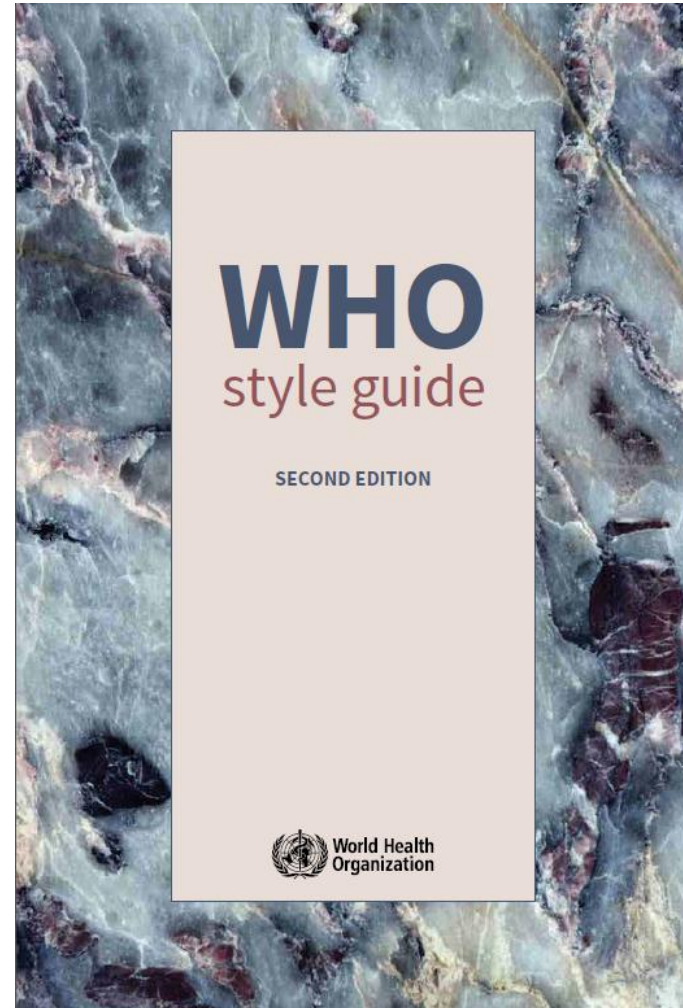
Phase 1 – desk Review (April-May)

- a. compile all WHO definitions of terms used in WHO malaria publications since 1995, in addition to those contained in the glossary of “WHO Terminology of malaria and of malaria eradication, 1963”;
- b. compile the specific WHO definitions used by other WHO departments for the same terms (e.g. preventive chemotherapy for NTDs);
- c. identify from systematic literature research over the past 10 years recurrent terms that are similar but with different meanings, and multiple different with similar meanings;

As a result of the desk review a total of 292 terms were identified and draft definitions proposed. Terms were divided in four groups related to elimination (50), vector control (69), surveillance (85) and diagnosis and treatment (88) - many relevant to both surveillance and elimination.

Members, Secretariat & Style

- Desk Review
 - Mar Velarde
- Drafting Committee
 - Andrei Beljaev,
 - Graham Brown,
 - Kamini Mendis,
 - José Najera,
 - Trenton Ruebush
 - Rick Steketee
 - Graham White
- WHO Secretariat
 - Andrea Bosman



Drafting Committee: Meeting on 2-3 June 2015

Objectives of the meeting

- To revise priority terms that need to be updated or given new definitions based on the relevance to malaria elimination and eradication, current programmatic use and conflicting definitions in malaria and other public health programs;
- To define the process for finalisation of identified terms in order to be presented at the MPAC meeting in September;
- To develop a system for reviewing and incorporating new terms; and
- To agree on mechanisms for dissemination and promotion of uptake of new terms

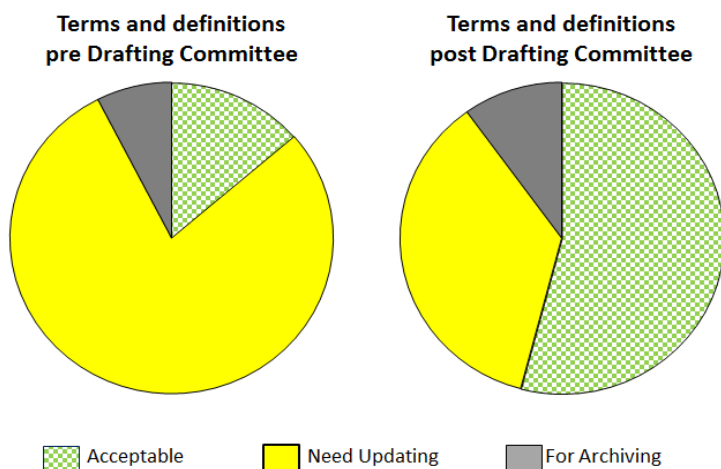
Drafting Committee: Meeting on 2-3 June 2015

Decision Principles

- Keep definitions short and crisp with a balance between technically correct and user-friendly language;
- Use “comments” linked to the definitions to provide relevant context and additional information;
- Generally avoid trendy and cute terms including acronyms and abbreviations;
- Highlight problematic terms for specific additional discussion

Phase 2 - WHO Drafting Committee

- a. Identify the priority terms that need to be updated or given new definitions, based on the following criteria:
 - i. terms relevant to malaria elimination and eradication
 - ii. terms with programmatic relevance
 - iii. terms with conflicting definitions.
- b. Develop updated or new definitions for priority terms
- c. Outcome of the review by the Drafting Committee:

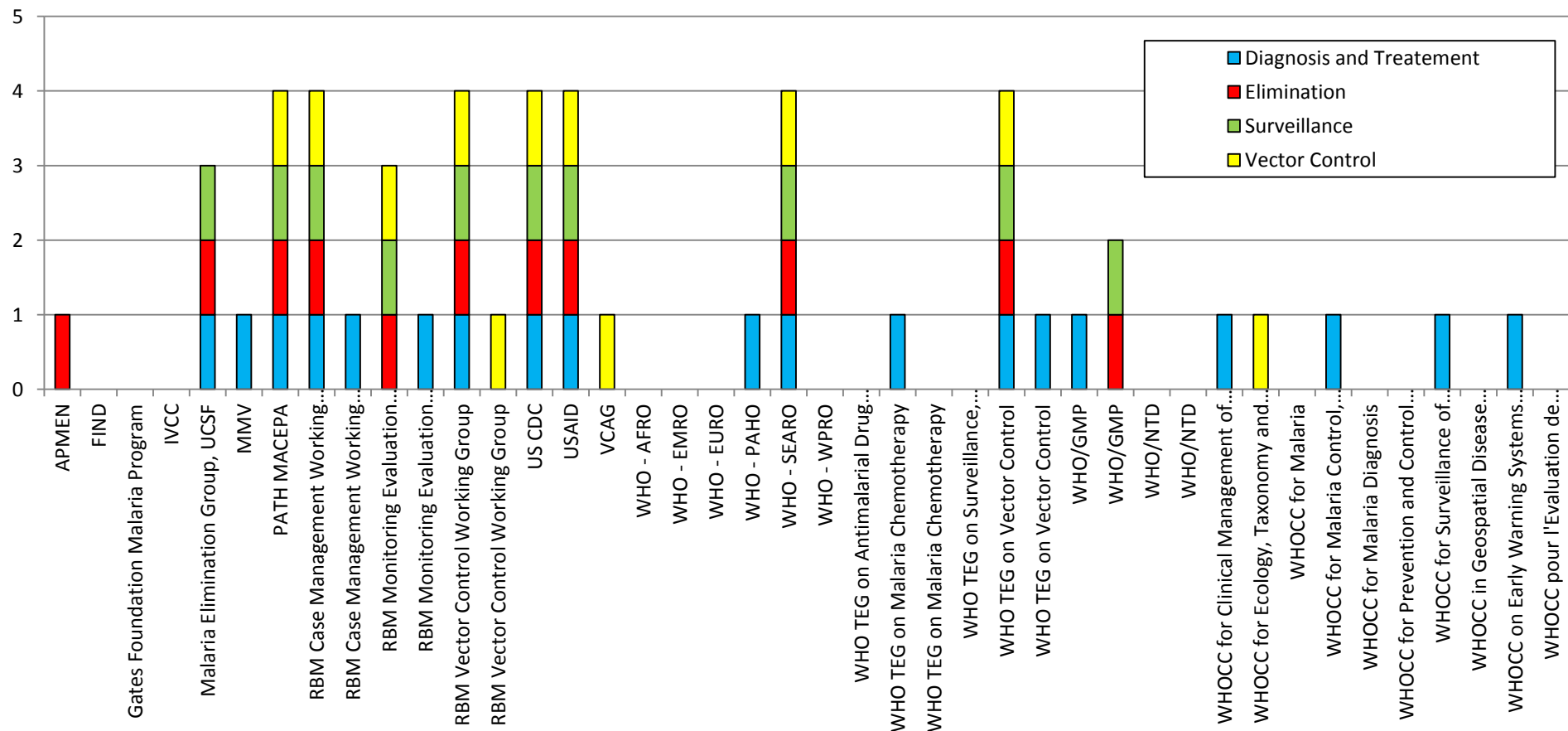


External Survey

- 101 terms in 4 categories included in the survey:

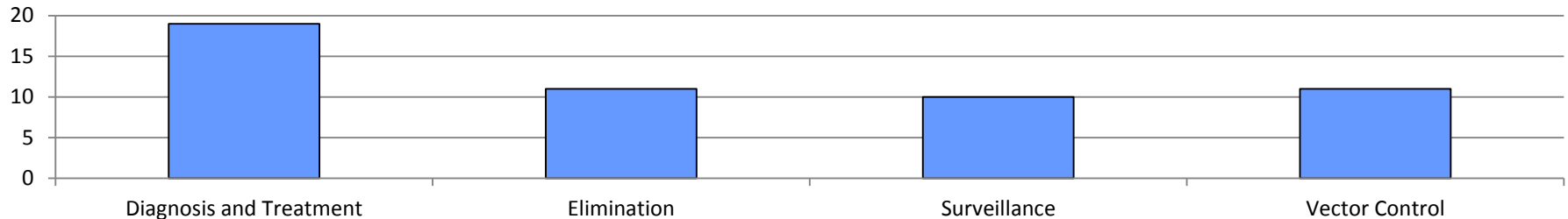
Diagnosis and treatment (32), Elimination (28), Surveillance (21), Vector control (20)

- Responses: 25 tokens by 20 institutions/groups

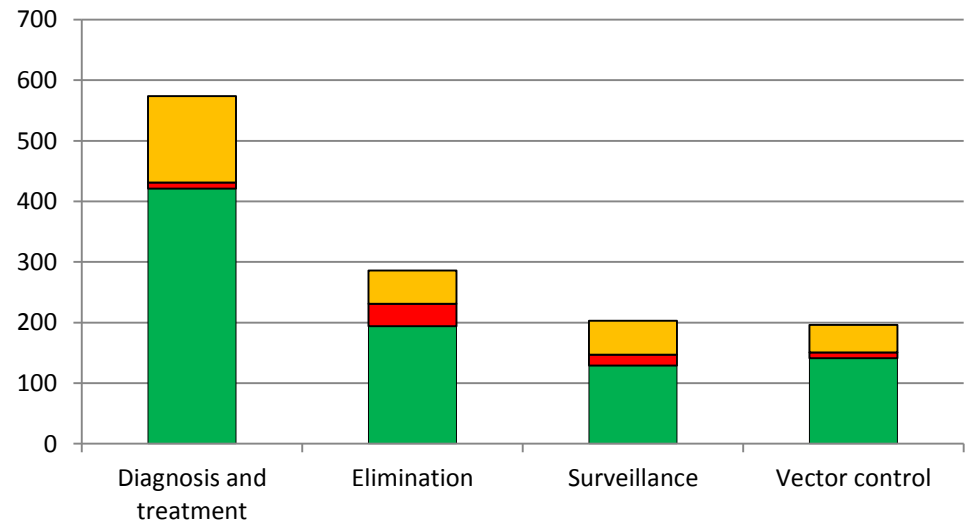


Survey statistics (III)

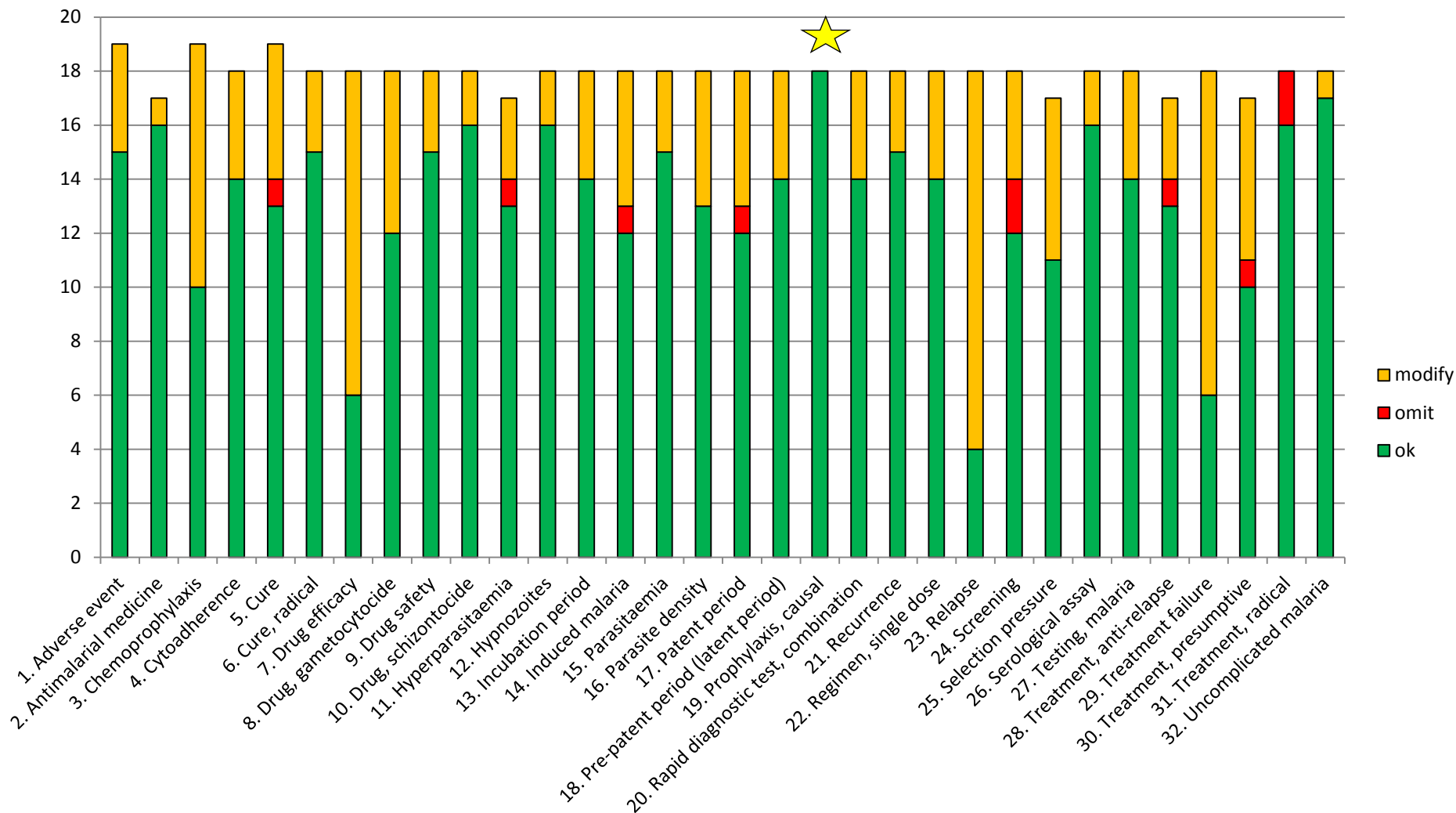
Total responders with token by category



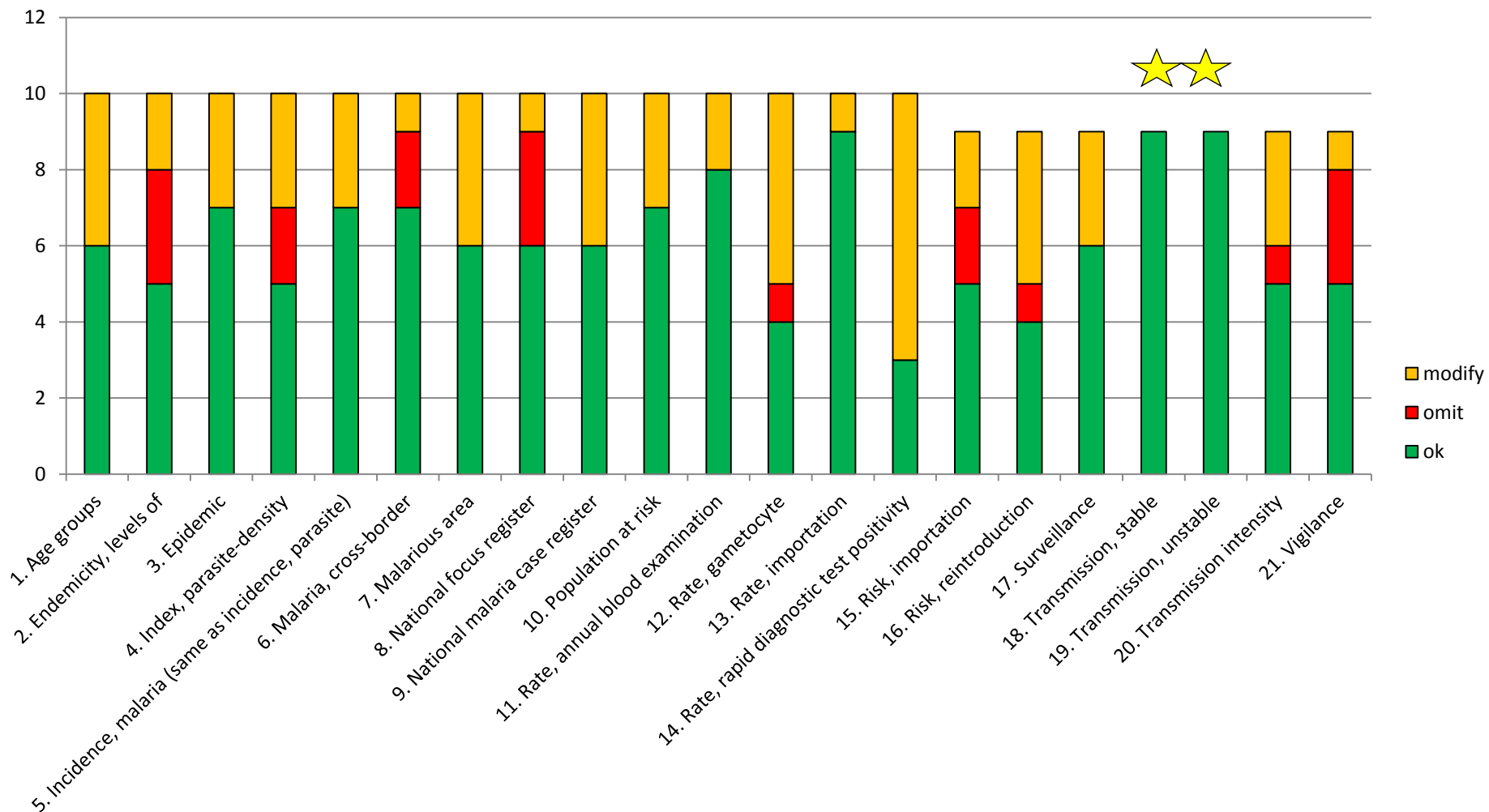
- A total of 1260 entries was received
 - (884 ok, 75 omit, 301 modify)
- 5 terms marked ok by all reviewers



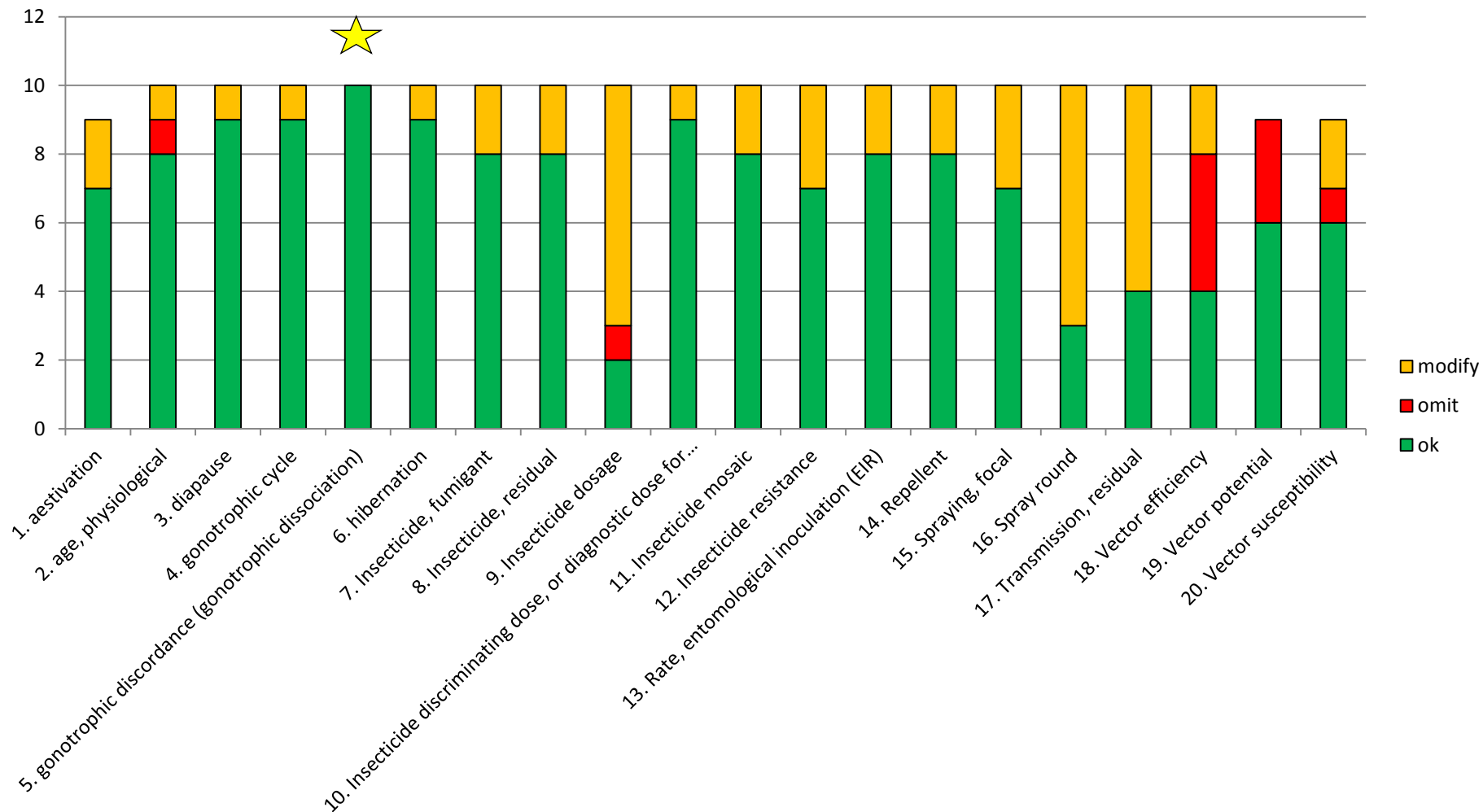
Responses per Category (I): Diagnosis and Treatment



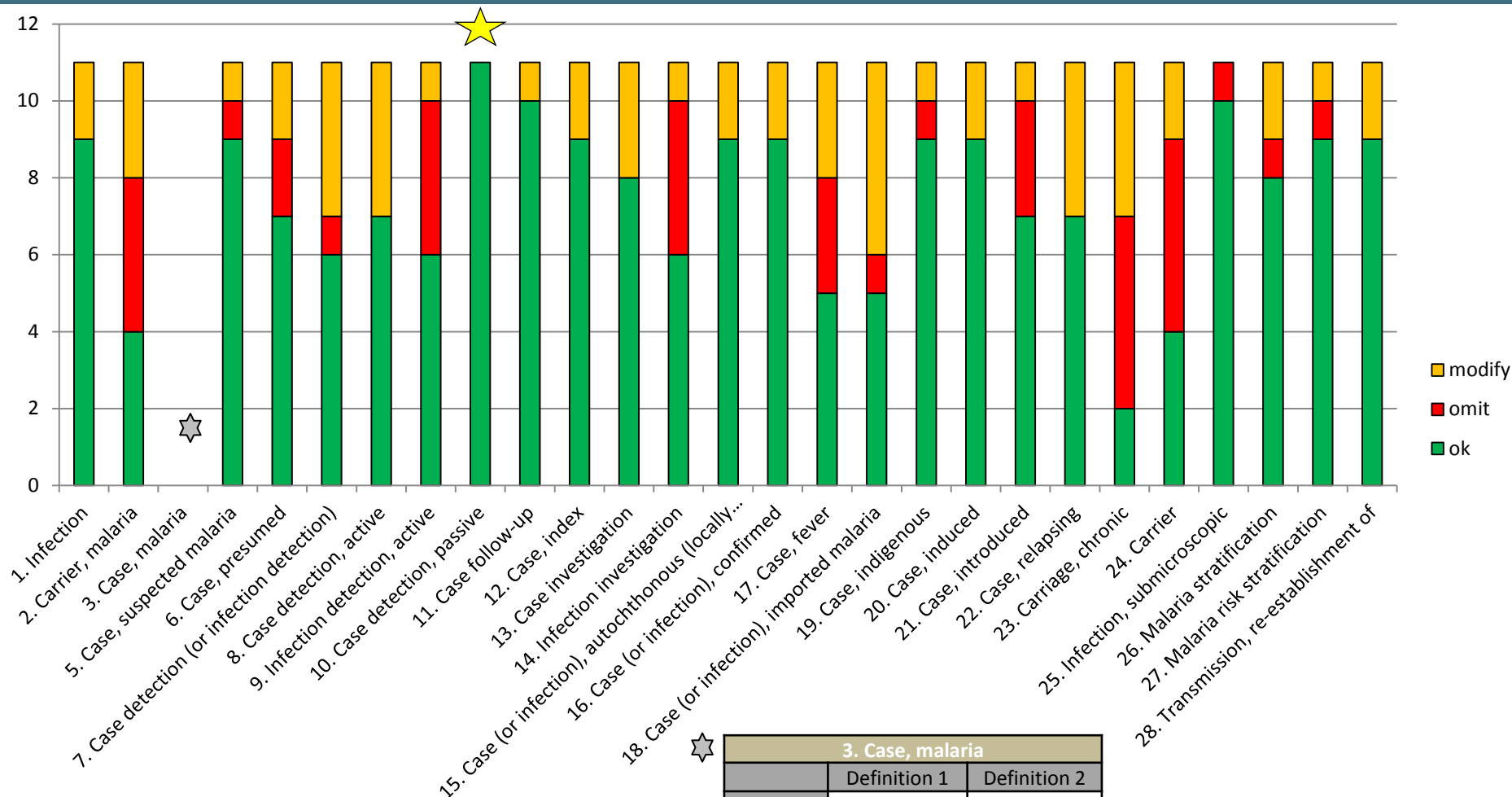
Responses per Category (III): Surveillance



Responses per Category (IV): Vector Control



Responses per Category (II): Elimination



3. Case, malaria		
	Definition 1	Definition 2
yes	7	3
uncertain	2	4
no	2	3

The Changes in WHO Definition of "Malaria Cases"

- **WHO Terminology of malaria and of malaria eradication, 1963**

Malaria case. In malaria eradication terminology, occurrence of **malaria infection in a person in whom, regardless of the presence or absence of clinical symptoms**, the presence of malaria parasites in the blood has **been confirmed by microscopic examination**.

During surveillance, every malaria case detected is classified, according to the origin of the infection, as indigenous or as imported, introduced, relapsing or induced. (WHO Malaria Terminology, 1963)

The Changes in WHO Definition of "Malaria Cases"

- **WHO Terminology of malaria case, 1998**

Malaria cases: We concentrate here on **parasitologically confirmed, symptomatic cases** on the grounds that, wherever malaria is an important disease, microscopic diagnosis should be considered a minimum requirement. The fundamental measure is the proportion of blood smears from symptomatic persons positive for malaria parasites, the **slide positivity rate (SPR)**. Note that positive blood smears taken from asymptomatic persons (for example as part of active detection activities) should be presented separately as these represent malaria infection, but not malaria cases. Where most persons with symptoms plus parasitemia in a given population or a representative sample of them, provide blood smears through passive or active case detection, SPR can be used to calculate the widely-used indicator, **Annual Parasite Incidence (API)**:

$$\text{API} = \frac{\text{No. parasitologically confirmed cases/year} \times 1000}{\text{Population at risk}}$$

The Changes in WHO Definition of "Malaria Cases"

- **WHO Disease surveillance for malaria control: an operational manual, 2010**
 - **Confirmed malaria**
 - **Presumed malaria**
 - **Suspected malaria**
 - **Autochthonous** (locally transmitted)
 - **Indigenous**
 - **Introduced**
 - **Induced**
 - **Imported**
- Diagram illustrating the classification of malaria cases into Control programmes and Elimination programmes:
- Control programmes** (indicated by a bracket on the right) include:
 - Confirmed malaria
 - Presumed malaria
 - Suspected malaria
 - Elimination programmes** (indicated by a bracket on the right) include:
 - Autochthonous (locally transmitted)
 - Indigenous
 - Introduced
 - Induced
 - Imported
- Blue arrows indicate the flow from the elimination programmes category to the indigenous, introduced, and induced categories.
- **Malaria Case.** Any case, in which, regardless of the presence or absence of clinical symptoms, the presence of malaria parasites in the blood has been confirmed by quality-controlled malaria laboratory diagnosis

Two Definitions for Malaria Case in Current Glossary

Definition #1:

- Occurrence of **malaria illness/disease** in a person in whom the presence of malaria parasites in the blood has been **confirmed by parasitological testing**. 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). *(Assumes that we would introduce an alternative definitional term for asymptomatic infections identified by active processes)*

Definition #2:

- Occurrence of **malaria infection (symptomatic or asymptomatic)** in a person in whom the presence of parasites in the blood has been **confirmed by parasitological testing**. Note: A malaria case can be classified as indigenous, induced, introduced, imported, relapsing (based on the origin of infection).

Lack of Consensus by Drafting Committee/Reviewers

Those preferring definition #2:

- Advantage of continuity with the past GEP
- Single all encompassing definition may be better for surveillance; exchangeable with “infection”
- Aligned with malaria elimination actions (seeking both symptomatic and asymptomatic infections) that are increasingly adopted by countries; already adopted by countries in final steps to elimination
- Affirms parasitological confirmation
- Not all infections are cases (e.g. hypnozoite carriers are infected, but are not cases)
- All malaria data sets and reports should include the definition used of “malaria case”

Those preferring definition #1:

- Advantage of continuity for surveillance reporting of “cases” as a program transitions from control to elimination
 - consistent/same case definition for control/elimination: case counting, SPR (slide positivity rate), API (annual parasite incidence), CFR (case fatality rate) remain stable measures.
- Many countries remain in transition between control and elimination and current case definition comes from the control program
- Permits/forces the differentiation between detection/identification of symptomatic and asymptomatic infections
- Affirms parasitological confirmation
- Assumes use of an alternative term/ definition for asymptomatic infection

Lack of Consensus by Drafting Committee/Reviewers

Those preferring using different definitions (#1 and #2), in different phases of malaria control and elimination:

- Malaria surveillance reports both confirmed and presumed malaria cases - parasitological confirmation is “mandatory” only in elimination settings.
- Surveillance can evolve as part of programme transitions.
- Case definitions for surveillance can change based on operational setting. -- also assumes that measures of progress in higher transmission “control” areas may differ from measures of progress in very low transmission “elimination” areas.

Lack of Consensus by Drafting Committee/Reviewers

Caveats on “opinions” of drafting committee and reviewers:

- Drafting committee is small
- Number of external reviewers is modest
- Additional engagement of program managers and regional leadership in malaria may be particularly relevant

Requested Advice from MPAC

- Advise WHO on malaria case definition
- Feedback on the Glossary with proposed terms and definitions
- Advice on process for reviewing and incorporating new terms
- Mechanisms for dissemination and promoting uptake following MPAC review