14th meeting of the Vector Control Advisory Group

World Health Organization, Geneva, Switzerland
19 – 21 April 2021 Virtual meeting – hosted on ***Microsoft Teams***
Listed times represent time in Geneva (CEST / GMT+2)

This file contains the slides that were shown by the two presenters during the Open Session of the meeting, providing an overview of WHO's guideline development process.

Monday, 19 April 2021		
Session 2: Information OPEN SESSION		**Presenters**
12:45 – 13:45	**Overview of WHO's guideline development process** Chair of session: VCAG Co-chairs	
	• Data requirements and processes involved in developing WHO Guidelines	Elie Akl
	• MAGICapp introduction	Jenny Stevenson

World Health Organization

Introduction to WHO's Guideline Development Process

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Department of Internal Medicine

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Disclosures

No benefits from industry

Consultations related to guideline development

Member of the GRADE working group

Outline

- WHO guideline process in a nutshell
- Overview of data requirements (evidence needs)

Outline

- **WHO guideline process in a nutshell**
- Overview of data requirements (evidence needs)

WHO guidelines

Developed to respond to the needs of decision makers in member states

WHO guideline recommendations

Answer questions regarding the choice between a alternative options for a specific condition

WHO guidelines

Unfortunately it is common that evidence relevant to those question does not exist or is of low or very low certainty

WHO guidelines

“We don’t have enough evidence” is not an acceptable answer to users

The recommendation should be based on the “best available evidence”

Review > J Clin Epidemiol. 2014 Jun;67(6):629-34. doi: 10.1016/j.jclinepi.2013.09.020. Epub 2014 Jan 3.

World Health Organization recommendations are often strong based on low confidence in effect estimates

Paul E Alexander [1], Lisa Bero [2], Victor M Montori [3], Juan Pablo Brito [4], Rebecca Stoltzfus [5], Benjamin Djulbegovic [6], Ignacio Neumann [7], Supriya Rave [8], Gordon Guyatt [9]

We identified 116 WHO guidelines in which 43 (37%) were GRADEd and had 456 recommendations, of which 289 (63.4%) were strong and 167 (36.6%) were conditional/weak. Of the 289 strong recommendations, 95 (33.0%) were based on evidence warranting low confidence in estimates and 65 (22.5%) on evidence warranting very low confidence in estimates (55.5% strong recommendations overall based on low or very low confidence in estimates).

The example COVID-19

Both public health and clinical recommendations initially based on indirect and very low certainty evidence

Subsequently, recommendation revisited with more direct and higher certainty evidence

WHO guideline process

Overview of the Process of Guideline Development

1. Scope the guideline
2. Set up the GDG and External Review Group
3. Formulate PICO questions and select outcomes
4. Retrieve evidence, assess quality and synthesize
5. GRADE the certainty of evidence
6. Formulate recommend-dations using Evidence to Decision Framework
7. External review
8. Disseminate, implement, and evaluate impact

Methodologist

Credit: Kim Lindblade

Evidence to Decision framework

1 **Desirable Effects**
How substantial are the desirable anticipated effects?

2 **Undesirable Effects**
How substantial are the undesirable anticipated effects?

3 **Certainty of evidence**
What is the overall certainty of the evidence of effects?

4 **Values**
Is there important uncertainty about or variability in how much people value the main outcomes?

5 **Balance of effects**
Does the balance between desirable and undesirable effects favor the intervention or the comparison?

Evidence on health effects

6 **Resources required**
How large are the resource requirements (costs)?

7 **Equity**
What would be the impact on health equity?

8 **Acceptability**
Is the intervention acceptable to key stakeholders?

9 **Feasibility**
Is the intervention feasible to implement?

Evidence on contextual factors

CRITERIA	SUMMARY OF JUDGEMENTS						IMPORTANCE FOR DECISION
DESIRABLE EFFECTS	Trivial	Small	**Moderate**	Large	Varies	Don't know	
UNDESIRABLE EFFECTS	Large	Moderate	**Small**	Trivial	Varies	Don't know	
CERTAINTY OF EVIDENCE	Very low	**Low**	Moderate	High	No included studies		
VALUES	Important uncertainty or variability	Possibly important uncertainty or variability	**Probably no important uncertainty or variability**	No important uncertainty or variability			
BALANCE OF EFFECTS	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	**Probably favors the intervention**	Favors the intervention	Varies	Don't know
RESOURCES REQUIRED	Large costs	**Moderate costs**	Negligible costs and savings	Moderate savings	Large savings	Varies	Don't know
COST EFFECTIVENESS	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	Probably favors the intervention	Favors the intervention	Varies	No included studies
EQUITY	Reduced	Probably reduced	Probably no impact	Probably increased	Increased	Varies	Don't know
ACCEPTABILITY	No	Probably no	**Probably yes**	Yes	Varies	Don't know	
FEASIBILITY	No	Probably no	Probably yes	Yes	Varies	Don't know	

TYPE OF RECOMMENDATION

Strong recommendation against the option ○	Conditional recommendation against the option ○	Conditional recommendation for either the option or the comparison ○	**Conditional recommendation for the option** ◉	Strong recommendation for the option ○

Outline

- WHO guideline process in a nutshell
- **Data requirements (evidence needs)**

Evidence needs

Evidence on contextual factors

Evidence on health effects

Additional evidence (e.g., implementation)

Evidence on contextual factors

- **Prioritization** of outcomes (epidemiological, clinical, entomological outcomes, etc.)

- **Valuation** of prioritized outcomes

Evidence on contextual factors

Resource use:

- Resources needed (financial and non-financial)
- Costing studies
- Cost effectiveness studies

Evidence on contextual factors

Acceptability, **feasibility**:

- Survey of stakeholders
- Qualitative study with stakeholders
- Systematic review of published evidence
- Input of the GDG

Certainty (quality) of evidence

Typically assessed for evidence on health effects

Certainty (quality) of evidence:

Randomized Controlled Trials (RCTs) **>** Non-Randomized Studies (NRS)

Certainty (quality) of evidence:

Negatively affected by:

- Risk of bias (trial methodology, rate of missing data, selective outcome reporting)

Certainty (quality) of evidence:

Negatively affected by:

- Risk of bias
- Imprecision (depends on amount of data)

Certainty (quality) of evidence:

Negatively affected by:

- Risk of bias
- Imprecision
- Inconsistency (affected by heterogeneity of settings)

Certainty (quality) of evidence:

Negatively affected by:

- Risk of bias
- Imprecision
- Inconsistency
- Indirectness (relative to the question of interest)

Certainty (quality) of evidence:

Negatively affected by:

- Risk of bias
- Imprecision
- Inconsistency
- Indirectness
- Publication bias (Trial registration!)

To conclude about evidence need

Evidence needs

- Relevant data for both health effects and contextual factors

Evidence needs

- Important to follow standards in conducting and reporting research

Evidence needs

- Highest (possible) certainty evidence
- There is a need for flexibility and judging what is “good enough”

Thank you!

1866
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Guidelines for malaria vector control: development, updates and use of MAGICapp

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VCAG 14
WHO Guideline Development Process

Global **Malaria** Programme

World Health Organization

Guidelines for Malaria Vector Control

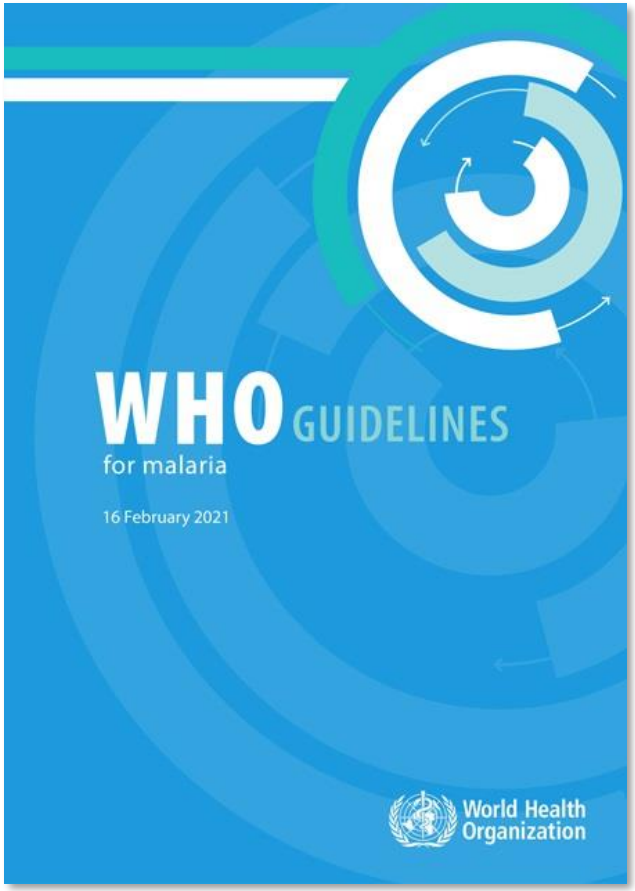
- 1st set of guidelines published in 2019 brought together multiple stand-alone WHO documents in the area of malaria vector control.
- Consolidated with guidelines on chemoprevention and case management and treatment and published February 2021

  https://www.who.int/publications/i/item/WHO-UCN-GMP-2021.01

  and available on the online platform:

  https://app.magicapp.org/#/guideline/4870

- Combines recommendations and good practice statements with associated evidence profiles, justifications, background information, and references



Current malaria vector control recommendations

- Interventions recommended for large scale deployment :
  - **Pyrethroid insecticide treated nets (ITNs)** with insecticides prequalified by WHO (strong recommendation for)
  - **Indoor residual spraying (IRS)** with insecticides prequalified by WHO (strong recommendation for)
- **Pyrethroid –PBO ITNs** where principal malaria vector(s) exhibit pyrethroid resistance that is: a) confirmed, b) of intermediate level c) conferred (at least in part) by a monooxygenase-based resistance mechanism (conditional recommendation for)
- Priority should be given to **delivering either ITNs or IRS at high coverage** and to a high standard, rather than introducing the second intervention as a means to compensate for deficiencies in the implementation of the first (conditional recommendation against)
- Supplementary interventions (where high coverage with either ITNs and IRS achieved):
  - **Larviciding** with biological or chemical insecticides where aquatic habitats are few, fixed, findable and where application is feasible and cost-effective (conditional recommendation for)

Current malaria vector control interventions not recommended

- Topical repellents are not recommended for deployment to provide protection against malaria at the community level(conditional recommendation against)
- Insecticide –treated clothing is not recommended for deployment to provide protection against malaria at the community level, but may provide personal protection in specific groups (military, refugees) (conditional recommendation against)
- Space spraying is not recommended (conditional recommendation against)

Interventions for which the body of evidence was insufficient in 2019

- Larvivorous fish
- Larval habitat modification/manipulation
- Spatial/airborne repellents
- House modifications/improvements
- ATSBs

Updating the 2019 malaria vector control guidelines

- Areas to evolve or update were identified

  - Personal protection and community effects of ITNs
  - Larval habitat manipulation and habitat modification
  - Housing modifications for malaria control
  - Deployment of pyrethroid-PBO nets
  - Guidance on combining IRS and ITNs
  - Vector control in complex emergencies
  - Use of personal protection measures such as topical repellents
  - Cost and cost-effectiveness of vector control and resource considerations

Revisions planned for 2021

- Areas to evolve or update were identified

  - Personal protection and community effects of ITNs
  - Larval habitat manipulation and habitat modification
  - Housing modifications for malaria control
  - Deployment of pyrethroid-PBO nets
  - Guidance on combining IRS and ITNs
  - Vector control in complex emergencies
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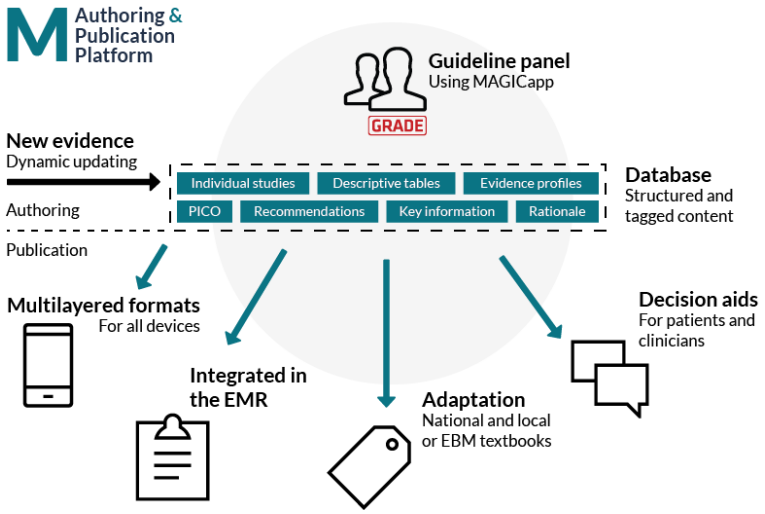
  - Cost and cost-effectiveness of vector control and resource considerations

MAGICapp

- MAGIC (Making GRADE the Irresistible Choice) is a non-profit Foundation, that developed a web-based digital evidence ecosystem. MAGICapp is a platform that displays digitally structured guidelines, evidence summaries and decision aids

  https://magicevidence.org/

- Can be used to develop, publish and update recommendations in a user-friendly format
- Available for use on computers, tablets, SMART phones



MAGICapp demo

- https://app.magicapp.org/#/guidelines

Any questions?

Global **Malaria** Programme

World Health Organization