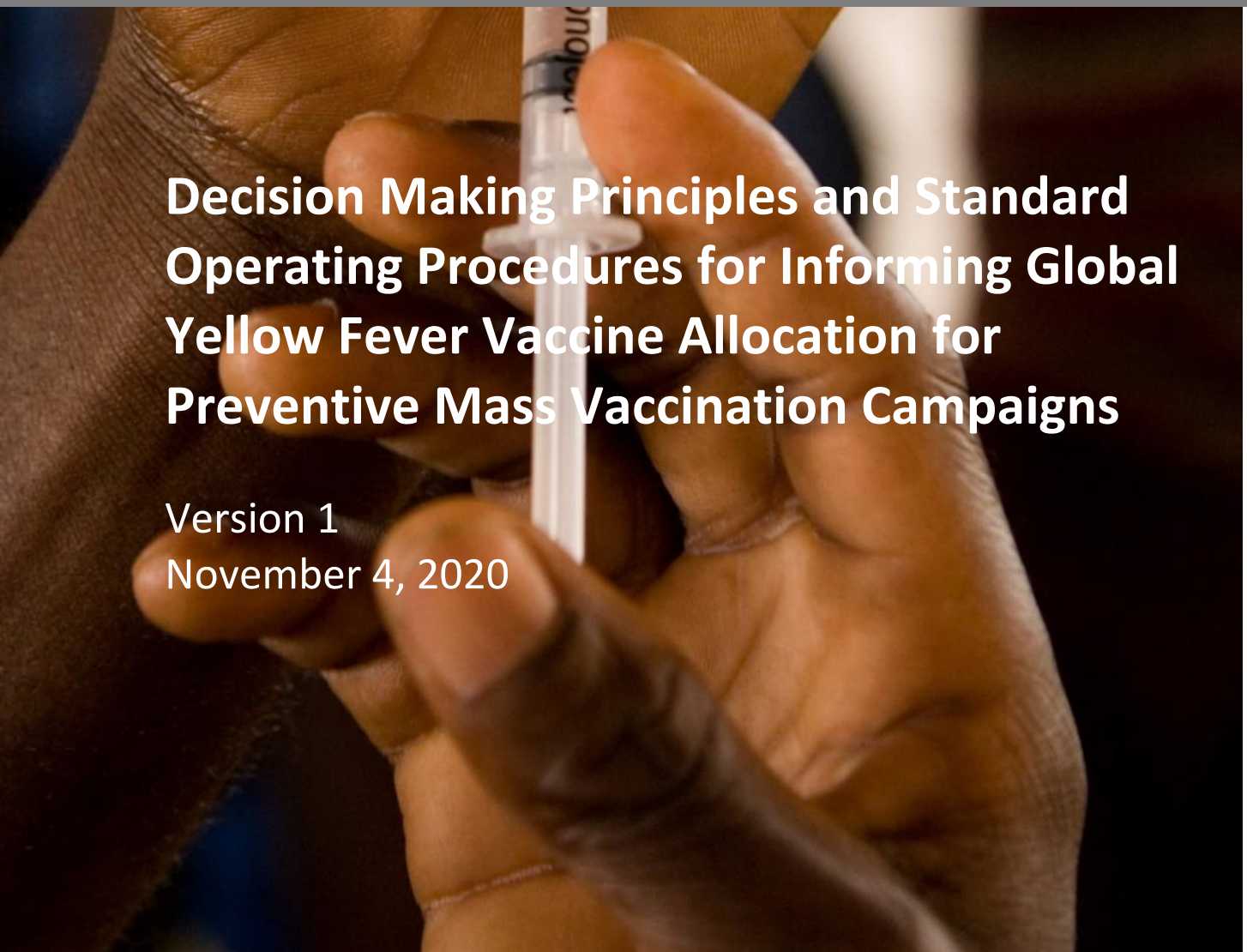
ELIMINATE YELLOW FEVER EPIDEMICS



Decision Making Principles and Standard Operating Procedures for Informing Global Yellow Fever Vaccine Allocation for Preventive Mass Vaccination Campaigns

Version 1
November 4, 2020

ABBREVIATIONS AND ACRONYMS

AFRO	African Regional Office
CO	Country Office
cYMP	Comprehensive Multi-Year Plan
COVID-19	Coronavirus Disease 2019
EYE	Eliminate Yellow Fever Epidemics
EPI	Expanded Programme on Immunization
HCW	Healthcare Worker
MOH	Ministry of Health
NIS	National Immunization Strategy
RAWG	Risk Analysis Prioritization Working Group
PMVC	Preventive Mass Vaccination Campaign
PMG	Programme Management Group
RACI	Responsible, Accountable, Consulted, and Informed
RI	Routine immunization
RO	Regional Office
SCM	Senior Country Manager
SD	Supply Division
SDWG	Supply and Demand Working Group
SOP	Standard operational procedure
UNICEF	United Nations Children's Fund
WG	Working Group
WHO	World Health Organization
YF	Yellow Fever
YFV	Yellow Fever Vaccine

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1. BACKGROUND

Vaccination against yellow fever (YF) is one of the four key public health measures for YF prevention and control. There has been an effective and safe vaccine available to prevent YF since the 1930s. One dose of the vaccine provides lifelong immunity. YF vaccine coverages greater than 80%, with a 60-80% security threshold, are necessary to interrupt local transmission (human-mosquito-human) of YF virus within a community and to ensure that sporadic cases do not generate onward transmission and additional cases[1].

Preventive mass vaccination campaigns (PMVCs) are the most efficient approach to rapidly increase population immunity levels in high-risk areas and control the risk of YF epidemics. Although the supply situation has greatly improved, vaccine supply has remained one of the obstacles to implementing mass vaccination campaigns, especially in countries with large targeted populations. There has therefore been a need to prioritize supply for campaigns in recent years.

To enable successful PMVCs, timely and efficient allocation with utilization of the YF vaccine is required. The "Decision Making Principles and Standard Operating Procedures for Informing Global Yellow Fever Vaccine Allocation for Preventive Mass Vaccination Campaigns" are therefore developed to enable efficiency, and the standardization of criteria and processes to prioritize available YF vaccine supply.

2. VISION

The purpose of defining and developing these criteria and associated principles is to ensure streamlined decisions and communications on YF vaccine allocation processes for PMVCs, within the governance framework of the global strategy to Eliminate Yellow Fever epidemics (EYE)[2]. These activities are mostly relevant to the EYE strategic objective 1 (protect at risk populations) and will additionally help provide a multiyear perspective that enhances contingency planning.

The criteria not only support decision-making for vaccine allocation but also help enable transparent communications on allocation processes, while identifying gaps in high risk countries and areas for support by the EYE partnership.

3. DECISION MAKING PRINCIPLES

Eligibility for consideration in these allocation processes is accorded to the countries at high risk of YF virus transmission. Countries at lower risk levels (moderate and potential risk categories) are not considered for this process.

With due consideration given to the timeline for initial development, review, validation and implementation of these SOPs in 2020, global decisions on allocation will be made exceptionally in October. From 2021 onwards, the decisions on allocation will be made

[1] World Health Organization. (2018). A global strategy to eliminate yellow fever epidemics (EYE) 2017–2026. World Health Organization. https://apps.who.int/iris/handle/10665/272408.
[2] https://www.who.int/initiatives/eye-strategy

annually in July, with transparent and standardized timelines to be reflected on the EYE calendar.

These decision-making efforts will be complemented by post-allocation communication activities to facilitate and enable transparent communications with EYE stakeholders and countries (including when the allocations do not meet expressed country demand and the justifications).

This work also aligns with the EYE Governance Framework[3] and more specifically the EYE dashboard, which provides an overview of the YF immunization situation and activities for EYE partners at country, regional and global levels.

The YF Vaccine (YFV) requirement for the routine immunization (RI) and for maintaining the global emergency stockpile are addressed before vaccine allocation is done for PMVCs. This serves as the initial prioritization filter.

- YF risk prioritization analysis[4] performed by EYE Risk Analysis Prioritization Working Group (RAWG) enables the ranking of high-risk countries annually by their respective risk analysis scores, hence serving as a major filter for the allocation processes.
- After ranking countries based on their risk analysis scores, other criteria are assessed to determine the priority order for allocation.
- The decision on allocation is made by the EYE Programme Management Group (PMG) with input from various EYE governance entities to allocate doses to countries.
    - The prioritization score and risk ranking will be considered by the PMG to enable informed decision making.

These principles are aligned with the global principles to ensure fair and equitable access and allocation of vaccines.

4. EXCLUSIONS

Campaign readiness[5] is not accounted for as part of the criteria as the assessment comes after allocations are made (9 months prior to PMVC implementation, according to the WHO Campaign Readiness Assessment Tool). However, there is an assessment on country commitment and feasibility at this stage (see below).

Subnational risk prioritization is not accounted for in the allocation decision due to it being closely related to campaign rollout, and assessment is done at a national level. This is because the level and type of data available at a subnational level varies between countries, making a comparison very challenging and not appropriate.

[3] EYE Governance Framework
[4] EYE National Risk Assessment Tool for Africa
[5] Campaign readiness criteria is accounted for several months after allocation decisions and is therefore not considered here. Readiness is assessed, ideally by the WHO Country Office (WCO), usually 9-6 months prior to the campaign. This is followed by country microplanning (6 months prior to campaign) and district microplanning (3 months prior to campaign) https://www.who.int/immunization/diseases/measles/SIA-Field-Guide.pdf

5. PRIORITIZATION CRITERIA, DEFINITIONS, INFORMATION SOURCES

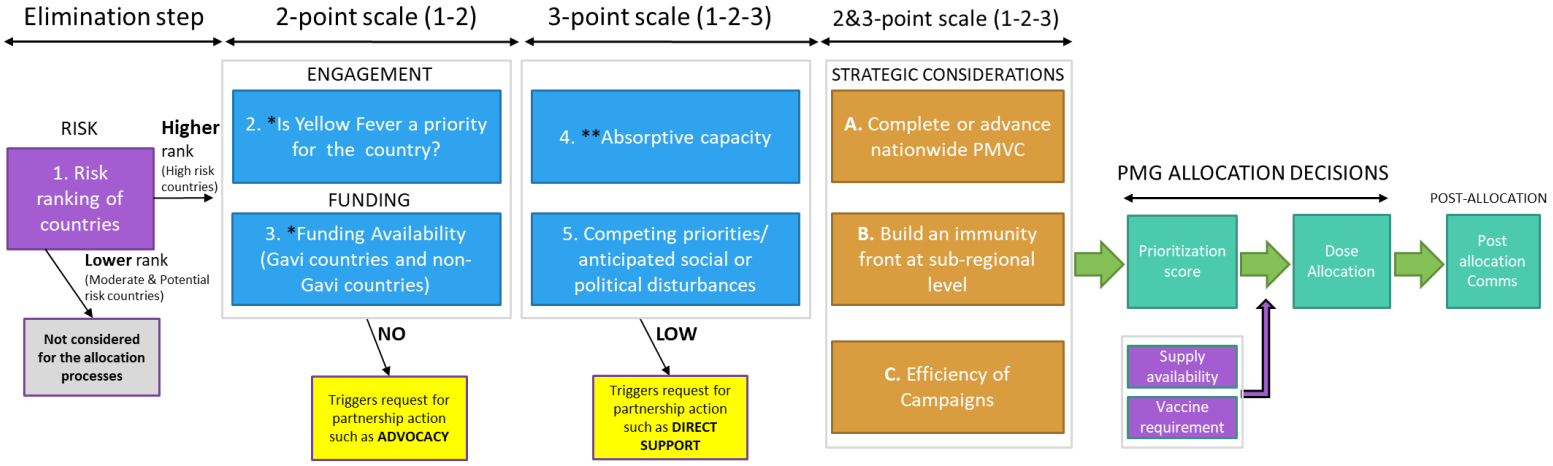
The elements on the table below respond to the need for a standardized set of criteria that are Informative, transparent, and easy to measure without burden on countries. This will support **decision-making** and **prioritization** for **vaccine allocation.**
5 criteria were identified and classified into **3 categories (RISK, ENGAGEMENT** and **FEASIBILITY),** with **3 STRATEGIC CONSIDERATIONS.**
Strategic considerations enable the integration of efficiency elements to allocation decisions.

CATEGORY	CRITERIA/STRATEGIC CONSIDERATION	DEFINITION OF CRITERIA/STRATEGIC CONSIDERATION	INFORMATION SOURCE
RISK	1. **National Risk Ranking**	Country risk ranking derived from YF risk analysis and based on the presence of epidemic, endemic, and mitigating factors.	EYE RAWG Specific source: - US CDC
ENGAGEMENT (political commitment)	2. **Is YF a priority for the country**	Degree of commitment and willingness officially expressed by a country, to implement the EYE strategy and YF prevention and control activities. Would ideally be reflected by a combination of 2 of these measures (with the Gavi application submission mandatory for Gavi-eligible countries): - An official letter to the EYE Regional Team in Africa indicating commitment from the Ministry of Health (MOH) to implement yellow fever prevention and control activities. - An updated comprehensive Multi-Year Plan (cYMP) for immunization covering the year(s) of concern or National Immunization Strategy (NIS) including YF interventions/PMVC/ activities. - Gavi PMVC application(s) submitted by the country for the year(s) of concern.	EYE Regional Implementation Team in Africa (WHO RO) Specific sources: - Letter of commitment: MoH/WHO CO - cYMP/NIS: WHO Country office - Gavi application submission: Gavi HQ/SCM + IRC report repository https://www.gavi.org/news-resources/document-library/irc-reports
FEASIBILITY (programmatic considerations)	3. **Funding availability**	Availability of financial resources to cover planned PMVCs. For Gavi eligible countries, this would be based on the Gavi application status as well as country funding, and for non-Gavi countries, this would be based on existing funding commitments.	Gavi (eligible countries), WHO RO, UNICEF SD, MOH Specific sources: - Gavi application status: Gavi HQ/SCM - Country funding: WHO/UNICEF CO - Existing funding commitments: MOH, WHO CO, UNICEF CO

	4. **Absorptive capacity**	The country's ability to successfully utilize available vaccines for planned immunization activities in accordance with the campaign implementation plan. This would be measured through the following: 1- Adequate national and subnational cold chain capacity. 2- Availability of ICC endorsed implementation plan. 3- Number of health facilities per capita and HCW/populations ratio. 4- Recommendations from in-country partners based on previous campaigns (UNICEF-WHO). 5- Number of doses the country has been able to absorb in recent years, ideally for YF campaigns	WHO RO, UNICEF RO, UNICEF SD, MOH Specific sources: - Cold chain capacity WHO/UNICEF CO. - ICC endorsed implementation plan: WHO/UNICEF CO. - Number of health facilities per capita - HCW/populations ratio - https://databank.worldbank.org/source/world-development-indicators/preview/on - Recommendations based on previous campaigns (UNICEF/WHO CO). - Number of absorbed WHO CO / UNICEF SD
	5. **Competing priorities**	Competing activities that cannot all be satisfied simultaneously. This would be measured through the following: 1- Occurrence of other vaccination campaigns (reactive or preventive). 2- Anticipated social or political disturbances. 3- Public health events of concern or emergencies such as the COVID-19 pandemic.	WHO Country Office, WHO RO Specific sources: - Other vaccination campaigns: WHO CO - Anticipated social or political disturbances: WHO CO - Public health events of concern: WHO AFRO Outbreaks and Emergencies Bulletin
STRATEGIC CONSIDERATIONS	A. **Complete, advance nationwide PMVCs or close immunity gaps**	The opportunity to complete, progress on previously started PMVCs in-country or close immunity gaps based on the success of previous phases.	WHO RO Specific source: - WHO CO, MOH
	B. **Build an immunity front at sub-regional level**	The opportunity to complete PMVCs in neighboring/border areas of high-risk countries to create a YF immunity front across national borders and at sub-regional/inter-country levels.	WHO RO Specific source: - WHO CO, MOH
	C. **Efficiency of campaigns**	The opportunity to create efficiencies between multiple interventions (at the time of preparation and/or delivery), in particular, to improve campaign performance across multiple epidemic-prone diseases.	WHO RO Specific source: - WHO CO, MOH
BACKGROUND INFORMATION (vaccine supply)	**YF vaccine supply availability**	Three-year projections of YF vaccines to be produced by manufacturers for upcoming year, and 2 additional years (after accounting for global emergency stockpile and RI demand).	EYE SDWG / UNICEF SD
BACKGROUND INFORMATION (vaccine requirement)	**YF vaccine requirement by implementation level**	Country vaccine requirement for YF PMVCs by implementation level (state/province/region) and phase.	Gavi Specific source: Country Gavi Application

6. ALLOCATION

I. DECISION TREE



*** For high risk countries, lack of Engagement and Funding should not be eliminatory** as it's the EYE partnership's role to ensure support for high risk in order to mitigate the inherent public health risk to which they are exposed (by ensuring engagement and availability of funding).
****Absorptive capacity**: For high risk countries, that are **engaged** and have the **funding,** but do not have the capacity to mount campaigns, the need for greater partner support has to be communicated.

Of note, scoring is not a substitute for PMG decision-making. The prioritization score and risk ranking will be considered by the PMG to support its informed decision making on allocations.

Example using *mock input* of how outputs could appear…

Shall support PMG dose allocation decisions

1) National Risk Ranking	Country	2) Funding Availability	3) Engagement	4) Absorptive capacity	5) Competing priorities	Strategic Considerations			Prioritization (Total score)
						A	B	C	
1	Nigeria	2	2	2	3	2	2	3	TBD…
2	DRC	2	2	2	2	2	2	2	
3	Ethiopia	2	1	3	1	1	2	2	
4	Uganda	2	1	3	1	1	2	2	
5	South Sudan	2	1	1	1	1	1	1	
6	Mali	1	1	1	2	2	1	1	
7	Chad	1	1	1	2	2	1	1	
8	Niger	1	1	1	1	2	1	1	

II. PRIORITIZATION SCORE

- ❑ The higher the score (except for risk), the higher the rank
- ❑ National risk ranking is derived from the risk analysis score.
- ❑ All other criteria are scored based on 2-point or 3-point scales as follows:
  - **FUNDING & ENGAGEMENT:** 2-point scale with 1 = No (red); 2 = Yes (green).
  - **ABSORPTIVE CAPACITY** 3-point scale with 1 = Low (red); 2 = Medium (amber); 3 = High (green).
  - **COMPETING PRIORITIES:** 3-point scale with 1 = Many (red); 2 = Few (amber); 3 = None (green).
  - **STRATEGIC CONSIDERATIONS:** 2 -point scale with 1 = No (red); 2 = Yes (green); and a 3 -point scale with 1 = No (red); 2 = Yes – opportunity to advance (amber); 3 = Yes – Opportunity to complete nationwide PMVC or close immunity gaps.
- ❑ *Ranking and scoring on table above is for illustration purposes only and not based on actual data.*

III. PROCESS DESCRIPTION

The steps below provide a description of the processes outlined on the decision tree and are in alignment with the RACI framework (Section 8).

1. **Determine vaccine supply availability:** YF vaccine supply availability is identified for the upcoming year and 2 additional years (after accounting for global emergency stockpile and RI demand).
2. **Generate national risk ranking:** Countries are ranked according to their risk analysis scores (based on RAWG guidance). The country with the highest risk score is ranked 1st. This is only eliminatory criterion with lower risk countries not considered for allocation (i.e. moderate and potential risk countries according to YF risk classification by country, Africa 2016).
3. **Assess engagement level:** Countries are scored based on their level of engagement. For countries with challenges in engagement, the EYE partnership triggers advocacy/facilitation activities to ensure underlying issues are addressed. A **2-point scale** is used for scoring (**1 for No** and **2 for Yes**).
4. **Assess funding availability:** Countries are scored based on availability of funding. For countries with funding challenges, the EYE partnership triggers advocacy/facilitation activities to ensure underlying issues are addressed. A **2-point scale** is used for scoring (**1 for No** and **2 for Yes**).
5. **Assess absorptive capacity:** Countries are scored based on their vaccine absorptive capacity. For countries with a low absorptive capacity, the EYE partnership will trigger direct country support/facilitation activities to ensure underlying issues are addressed. A **3-point scale** is used for scoring (**1 for Low**, **2 for Medium** and **3 for High**).
6. **Identify competing priorities:** Countries are scored based on the existence/number of competing priorities that cannot all be addressed at the same time. For countries with multiple competing priorities, the EYE partnership triggers direct country support/facilitation activities to ensure underlying issues are addressed. A **3-point scale** is used for scoring (**1 for Many**, **2 for Few** and **3 for None**).
7. **Assess opportunities to complete/advance nationwide PMVCs or close immunity gaps:** Countries are scored based on existing opportunities to complete or advance nationwide PMVCs. A **3-point scale** is used for scoring (**1 for No**, **2 for Yes - existing opportunities to advance** and **3 for Yes – Opportunities to complete nationwide PMVC or close immunity gaps)**.**Assess opportunities to build an immunity front at sub-regional level:** Countries are scored based on existing opportunities to build an immunity front at sub-regional level. A **2-point scale** is used for scoring (**1 for No** and **2 for Yes**).
8. **Assess opportunities to enhance efficiency of campaigns:** Countries are scored based on existing opportunities to enhance efficiency of campaigns. A **2-point scale** is used for scoring (**1 for No** and **2 for Yes**).
9. **Generate prioritization score:** The prioritization score is generated based on all allocated scores (excluding national risk ranking). National risk ranking is excluded because it is used together with the prioritization score to support PMG decisions.
10. **Review proposed in-country YF vaccine requirement by implementation level:** A map of the proposed in-country phasing and vaccine requirement by implementation level (state/province/region) for YF PMVCs for the year(s) of concern is reviewed.

11. **Allocate doses for upcoming year(s):** The prioritization score and the national risk ranking will support PMG decisions on YFV dose allocation for the upcoming year. Provisional allocations are also made for two additional years.
12. **Trigger post-allocation communications**: Post-allocation communications is triggered upon completion of YFV dose allocation.

7. POST-ALLOCATION COMMUNICATIONS

I. STAKEHOLDERS

Upon completion of allocation by PMG, the EYE Secretariat and various governance entities (as specified on RACI) will proceed with informing various EYE stakeholders at Global, Regional and National levels.

Categories of stakeholders to be informed include:

- Core EYE partners at global, regional, and country levels
- Yellow fever vaccine manufacturers
- Country stakeholders (MoH and others)

II. CONTENT

	AUDIENCE			
CONTENT	Countries involved (MoH)	EYE partners at country level	EYE partners at global & regional levels	YF Vaccine Manufacturers
Final allocation decision for upcoming year	**YES**	**YES**	**YES**	**YES**
Justification and scoring for upcoming year's allocation	**YES**	**YES**	**YES**	
If allocation does not meet expressed country demand, justification as to why	**YES**	**YES**		
Provisional allocation for 2 years in advance.			**YES**	**YES**

III. CONTACT LIST

The EYE contact list will be used to identify stakeholders to be informed at all levels.

IV. DISSEMINATION ONLINE

The allocation decision-making principles and processes will be hosted on the WHO Yellow Fever webpage and the EYE Strategy's SharePoint site to ensure availability to all partners.

V. COMMUNICATIONS TIMELINE

One-week post PMG allocation decision: minutes are generated, allocation decisions are documented with justifications.
Two weeks post PMG allocation decision: All stakeholders are be informed of the allocation decision. Key dates to be integrated on the EYE calendar.

VI. COMMUNICATION OF CHANGES

Stakeholders will be informed of major changes affecting the allocation decisions, as the changes occur or are identified. Changes at country level will ideally be identified and shared by the regional offices through the EYE Secretariat. Changes at other levels will also be shared by partners through the Secretariat.

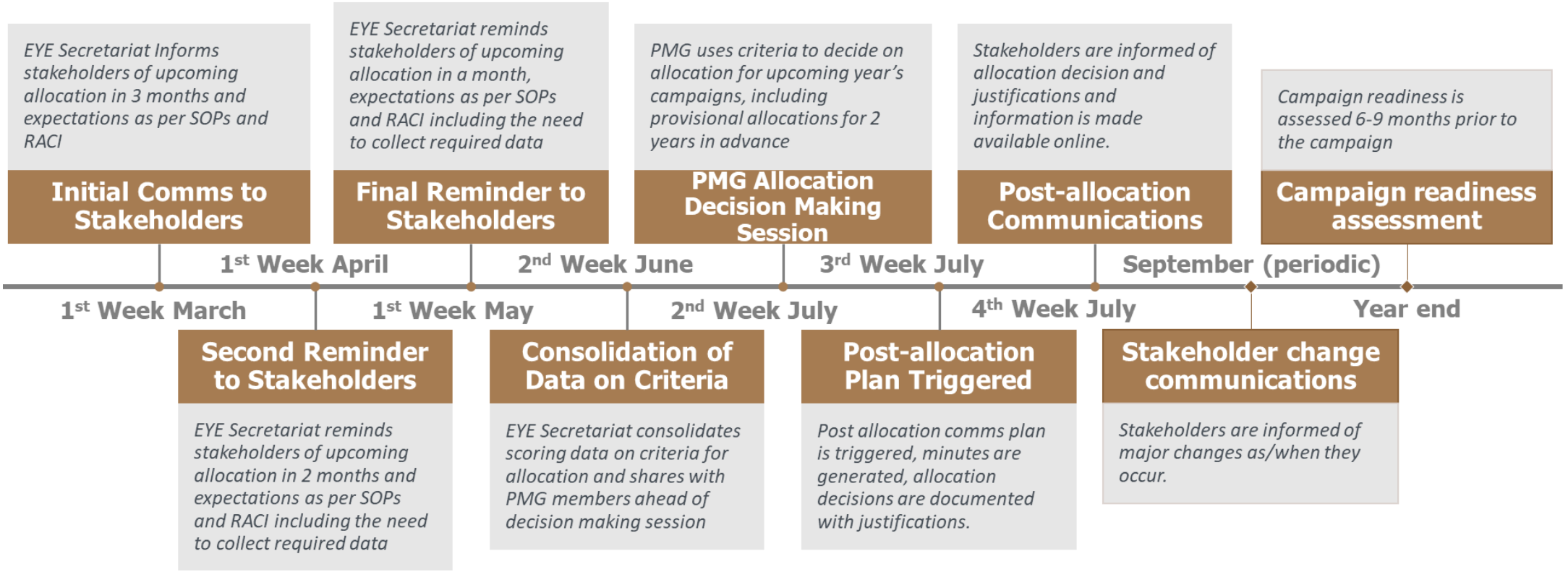
8. PARTNER RESPONSIBILITIES (RACI FRAMEWORK)

	EYE Secretariat	EYE PMG	Gavi	UNICEF SD	WHO RO	UNICEF RO	EYE RAWG
Decide on allocation							
Provide national risk ranking	R	I					A, R
Advise PMG on vaccine availability	R	I		A, R			
Advise PMG on country funding availability	R	I	R	R	A, R	C	
Advise PMG on country engagement level	R	I	C		A, R	C	
Advise PMG on country absorptive capacity	R	I		C	A, R	R	
Advise PMG on country competing priorities	R	I	C		A, R	C	
Advise PMG on strategic flag 1 (opportunity to complete or advance nationwide PMVC)	R	I			A, R	C	
Advise PMG on strategic flag 2 (opportunity to build an immunity front at sub-regional level)	R	I			A, R	C	
Advise PMG on strategic flag 3 (opportunity to improve upon efficiency of campaigns)	R	I	C		A, R	C	
Advise PMG on vaccine availability	R	I		A			
Advise PMG on in-country YF vaccine requirement by implementation level	A, R	I	R		R		
Generate prioritization order and Make informed decisions to allocate doses	R	A, R	C	R	C	C	C
Inform stakeholders of allocation decision							
Host info on WHO YF Webpage/SharePoint	A, R	I					
Inform countries (MoH)	R	I		R	A, R	R	
Inform country-level, Gavi, UNICEF & WHO partners	A, R	I	R		R	R	
Inform regional and global partners	A, R	I					
Inform YF vaccine manufacturers	R	A		R			
Country campaign readiness ***(via WHO campaign readiness assessment tool)***							
Inform PMG on readiness, starting 9 months ahead of PMVC implementation	R	I	I	I	A, R	I	

R = **Responsible**: Does the work to complete the activity/task.
A = **Accountable**: Reviews the activity/task to deem it complete (ultimately accountable).
C = **Consulted**: Needs to provide feedback on or contribute to the activity/task.
I = **Informed**: To be kept in the loop on activity/task progress.

9. TIMELINE

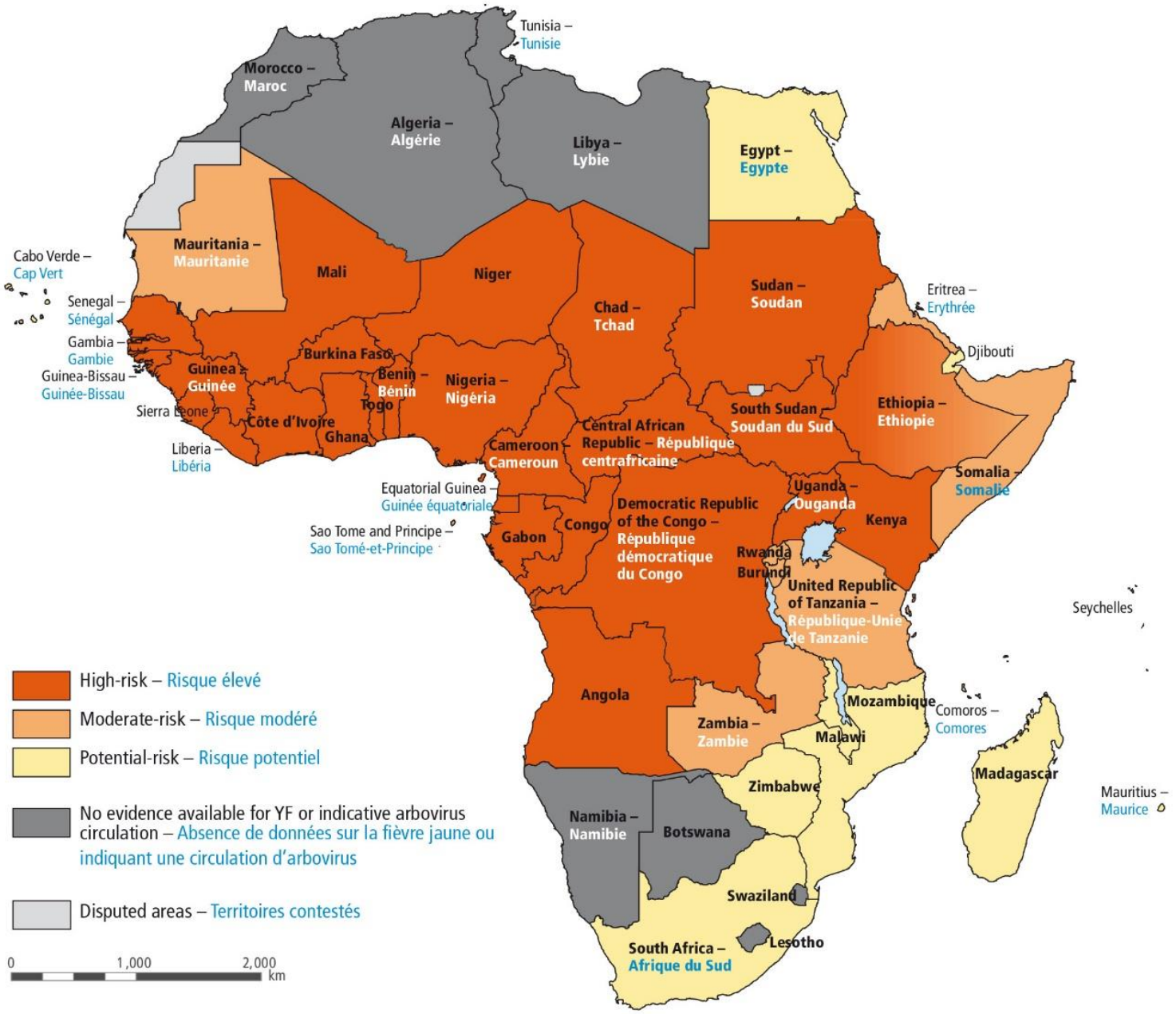
I. 2021 ONWARDS



10. ANNEXES

I. YF RISK CLASSIFICATION BY COUNTRY IN AFRICA.

Map 1a **Yellow fever (YF) risk classification, by country: Africa, 2016**
Carte 1a **Classification du risque de fièvre jaune par pays: Afrique, 2016**



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