

# EYE Strategy | 2022 Highlights

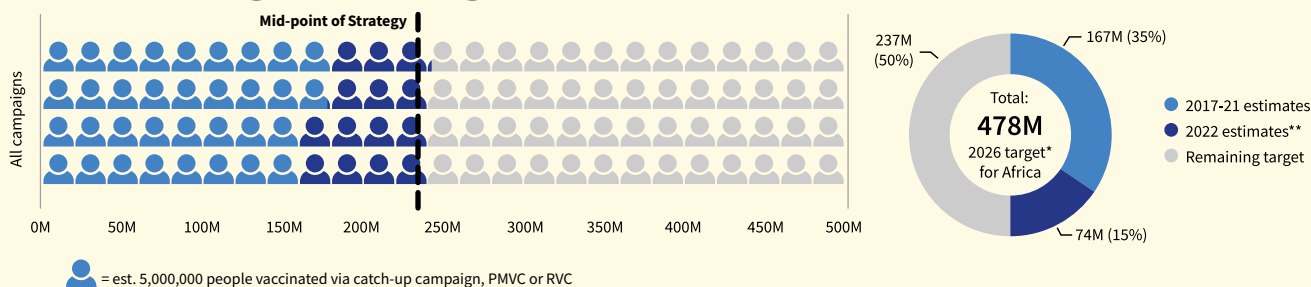


“Perhaps the strongest partnership in the immunization space.”

Dr Ephrem Lemango (Chief of Immunization, UNICEF)

6th EYE Annual Partners' Meeting 2022

## Total anticipated no. of people protected for life in Africa via campaigns halfway through the Strategy (since 2017)



\* based on 2017 needs assessment and will be updated in 2022 (target will move as immunity gaps are quantified).  
\*\* preliminary estimates based on target population, preliminary reported numbers and admin coverage.

Data as of 24/11/2022  
Source: EYE Secretariat Internal Tracking Tool

~223m\*

People vaccinated against yellow fever (YF) in Africa from 2017 to 2022

~52.6m\*

People protected via vaccination campaigns in Africa (preventive<sup>1</sup> & reactive<sup>2</sup>)

~1.8m\*

People protected via vaccination campaigns in Latin America & the Caribbean

~18m\*\*

Children protected via routine immunization in Africa

~4.9m\*

People protected by reactive vaccination in Africa

<sup>1</sup>Preventive mass vaccination campaigns (PMVCs) are the most efficient approach for rapidly increasing population immunity levels in high-risk areas and controlling the risk of yellow fever epidemics on a short-term basis. They target the at-risk populations older than 9 months, provide shorter term but rapid increases in population immunity.

<sup>2</sup>Reactive campaigns are launched in response to outbreaks to protect the vulnerable population. Numbers are best estimates in millions based on data tracked throughout the year.

\*\* Estimate based on no. of million doses shipped assuming 40% wastage rate. Actual figures might be different in the pandemic context

### Niger protected

~848,000 people

### Ghana protected

~327,000 people through RVCs<sup>1</sup>.

### Nigeria protected

~31 million people

through PMVCs<sup>2</sup>. Certain campaigns were integrated with measles, meningitis, and maternal and neonatal tetanus.

### Cameroon protected

~546,000 people through RVCs.

### The Republic of the Congo

~3.6 million people through RVCs.



### Chad protected

~2 million people

through RVCs, including 15,000 nomadic people and 10,000 refugees.

### Central African Republic (CAR) protected

~738,000 people through RVCs.

### The Democratic Republic of the Congo (DRC) is protecting

~13 million people through PMVCs\*.

### Uganda introduced YF vaccine

into its routine immunization (RI) programme.

### Kenya protected

~368,000 people through RVCs.

<sup>1</sup> Reactive vaccination campaigns. <sup>2</sup> Preventive mass vaccination campaigns. \* Campaign ongoing.

## Achievements

### Regional implementation teams

#### Africa

- Four EYE plans reviewed and updated for 2022-2026: (Chad, Niger, Cameroon, DRC); two of them validated by the ministries of health (Chad & Niger).
- Yellow fever Incident Management Support Team (IMST) conducted training on YF surveillance, outbreak investigations and response, and final case classification, for ten of the countries that had confirmed YF cases in 2022.
- One multi-country level workshop for plaque reduction neutralization tests (PRNT) by Regional Reference Laboratories (RRLs) to strengthen laboratory diagnostic capacities and data management serology accreditation in Ghana - a total of 18 national laboratories now accredited.
- 11 onsite technical support (eight new labs & three operational with technical issues).
- 12 countries benefitted from training on YF outbreak investigation and response conducted by the YF IMST.
- Four countries (Niger, Togo, Nigeria, Mauritania) have completed / are undergoing training for their SURGE team members deployed to support emergency responses.

#### Latin America and the Caribbean (LAC)

- Discussion on roadmap for EYE implementation and regional workplan for 2023 - 2026 started. Finalized documents are due by end of quarter 1.
- Two activities commenced to strengthen RI:  
1) A programmatic assessment of vaccine provider perspectives on barriers to YF vaccination in selected South American countries (Ecuador, Peru, and Suriname). 2) A study on an Argentinian cohort of children to evaluate long-term immunity for YF after co-administration of the YF and measles-containing vaccines at 12 months of age, 4 to 7 years after vaccination.
- Advocacy and raising profile to increase vaccination coverage - 1) Vaccination Week of the Américas (April) and 2) 8 Days of Action for Vaccination (October) - both multi-antigen regional catch-up campaigns.
- ~1.8 million people vaccinated against YF in Venezuela.
- Country profiles for 9 high-risk countries are complete and can be found by clicking here: [Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Suriname, Trinidad & Tobago, Venezuela](#).

### Working groups

#### Risk analysis working group (RAWG)

- Worked with Ethiopia on subnational risk assessment; finalizing documentation of process for further consideration by country partners and Gavi application.
- Through work with Ethiopia:
  - Identified additional considerations for future assessments.
  - Developed tools to assist countries wanting to conduct assessments.
- Published article on the resurgence of YF in African Region. [Click here](#) to read 'Yellow fever resurgence: An avoidable crisis'.

#### Commenced in 2022 and ongoing:

- Collaboration with Imperial College London to assess risk of YF virus spread to moderate-risk countries in WHO Regional Office for the Eastern Mediterranean (EMRO).
- Collaboration with Chad on subnational risk assessment to supplement Gavi proposal.
- Development of YF vaccination heatmap to compare vaccine coverage between and within countries.
- Coordination with partners in AMRO/PAHO (Regional Office for the Americas) regarding risk assessment needs.

#### Demand and supply working group (DSWG)

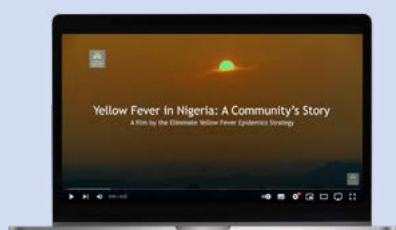
- 86.7 million doses of YF vaccine procured through UNICEF.
- ~4.6 million doses shipped to outbreaks in 2022.
- Decision-making session undertaken for vaccine allocations for 2023 - 2025 for (DRC, Chad, Ethiopia, Guinea Bissau, Nigeria, Uganda).

#### Vaccine delivery working group (VDWG)

- Draft report on barriers for optimal YF coverage finalized and under review.
- Technical assistance (TA) map for Uganda for yellow fever vaccine (YFV) introduction into RI programme.
- TA for Uganda PMVCs; multi-year TA for Uganda, including micro-planning and implementation to improve immunization coverage, to facilitate activities of the national immunization surveillance expert committees, and orientation of new health administrations on surveillance.
- Research completed into exploration of difference in vaccination rates for the YFV and measles-containing vaccine (MCV).

## EYE Secretariat

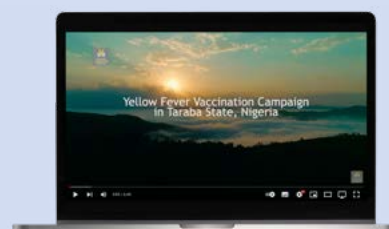
- Mid-term evaluation of the EYE Strategy and evaluation report. Presentation of recommendations and discussion with participants at the 6th EYE Annual Partners' Meeting.
- EYE five-year post inception storyline. [Please click here to view.](#)
- Monitoring and evaluation (M&E) dashboard created to show vaccination data, as well as progress on the three EYE strategic objectives.
- YF outbreak toolbox launched – [please click here to access.](#)
- Completion of technical guidelines for the development of preparedness, readiness and response plans to urban YF and respective webinar. [Please click here to access guidelines.](#)
- Completion of the EYE funding and advocacy strategy (2022-2026).
- Completion of the EYE learning strategy.
- Podcast – 16 episodes (six in 2022) of the EYE on Yellow Fever podcast. [Click here to access.](#) To view our 'Podcast best bits' [click here.](#)
- Press and social media toolkit updated for 2022. [Please click here to access.](#)
- 6th EYE Annual Partners' Meeting.



**Yellow fever: A community's story (film on the impact of yellow fever on a family & the wider community)**

[Click the image above.](#)

Available in French / Spanish / Arabic on the EYE YouTube channel – [click here.](#)



**Yellow fever vaccination campaign, Taraba State, Nigeria (2021)**

[Click the image above.](#)

Available in French / Spanish / Arabic on the EYE YouTube channel – [click here.](#)

## Laboratory technical working group (LTWG)

- Launch of EYE-LABS website - [click here to access.](#)
- Commercial kit performance evaluations:
  - Two kit performance evaluations for Immunoglobulin M (IgM) Serology assays completed.
  - Expert consultation held on the outcome of the kit performance evaluation of two serology IgM assays.
  - Publication of the second Expression of Interest call for molecular reverse transcriptase real-time polymerase chain reaction (RT-qPCR) assays for YF virus detection.
- Report completed on 2021 WHO Serology External Quality Assessment (EQA) Programme, conducted by Robert Koch Institute in collaboration with WHO, US Centers for Disease Control (US CDC), and LTWG.
- Biomex Vaccinee Project:
  - 10 subjects recruited;
  - Vaccination and specimen collected completed: 200 fractions collected from ten subjects newly vaccinated for YF (over ten weeks);
  - sera characterization initiated and undergoing by Institut Pasteur Dakar (IP Dakar) (almost complete);
  - selection criteria for most interesting fractions developed and agreed upon by LTWG; and
  - discussion initiated with National Institute for Biological Standards and Control (NIBSC) for specimen banking options.
- Hands-on training conducted in Africa and LAC; introduction & assay validation of Altona RT-qPCR assay in several countries.
- Technical content for the first complete draft for the laboratory manual developed and sent for editing.
- Shifted from WHO to UNICEF Supply Division procurement of "reagent bundles" - bundles delivered to all 21 countries.
- Coordination with UNICEF Supply Division for the inclusion of commercial serology assay under evaluation by WHO to be included in the UNICEF catalogue, should WHO recommend its use.
- Gavi YF molecular and new serology diagnostics support approved for 2023 by Gavi board.



## Capacity building workshops

### Chad



**Chad** – Technical support to the newly designated YF national laboratory at the Laboratoire National de Référence Général (LNRG), N'djamena (transitioning from the former to the new laboratory). Training of the new team with support of former team at the Centre Hospitalier Universitaire de Référence National (CHURN) de N'djaména. Transfer of material/reagents from the former to the new laboratory.

**Ghana** – Assessment and training for YF RT-PCR testing using The Altona RealStar® Yellow Fever Virus RT-PCR Kit.

**Niger** – Workshop held by the African Regional Office (AFRO), YF IMST, and the WHO country office (WCO). A strategic plan for EYE implementation in Niger was developed. .

**Uganda** – Workshop to strengthen RRLs' confirmatory capacities using chimeric virus.

### Ghana



### Uganda



## Accreditations

### Ghana



✓ **Ghana** - Accreditation of the national YF laboratory at the National Public Health Reference Laboratory (NPHRL), Korle-Bu, Accra.

✓ **Republic of the Congo** – Accreditation of L'institut National de Santé Publique de la République du Congo IgM YF testing.

✓ **Sierra Leone** - National Laboratory of Sierra Leone now has the capacity to perform serological testing for YF and it is anticipated that it could be fully accredited in 2023.



### Sierra Leone



## Training resources and tools

YF outbreak toolbox – comprehensive set of tools for use in the investigation of outbreaks of infectious and non-infectious diseases and hazards. **Please click here to access.**



International samples transportation – EYE.ops information video on the EYE Strategy samples' transportation process and best practice instructions on how to transport samples. **Click here to view.**

## Events

**Webinar on guidelines for preparedness, readiness, and response planning for yellow fever outbreaks in urban settings**

**Please click here to view**

**June**

**6th EYE Annual Partners' Meeting -**  
almost 200 attendees on both days

**Click here for day 1**

**Click here for day 2**

**September**

## Response to acute events

**1**

A summary of 2022 yellow fever outbreaks, risk assessment and advice can be found in the WHO's Disease Outbreak News [here](#).

**2**

There were six requests approved for YF vaccine from the International Coordinating Group on Vaccine Provision (ICG): two were fully approved (one each from Kenya and CAR); and four were partially approved (one each from Cameroon, CAR, Chad and Niger). In addition, the three requests approved in December 2021 were supported (two for Ghana and one for Chad).

**3**

The AFRO-led IMST coordinated activities between December 2021 and December 2022 to support 12 countries in the region that had YF confirmed cases or outbreaks. 14 consultants, four volunteers from The Global Outbreak Alert and Response Network (GOARN) and two volunteers from CANADEM were deployed to countries including epidemiologists, entomologists and vaccination experts.

## Ongoing risks

**1**

Greatest extent of YF transmission in over 20 years in Africa, with 15 countries reporting confirmed and probable YF cases.

**2**

Since late 2020: 11 outbreaks, of which seven were disruptive\*; seven were in countries with history of preventive campaigns (six out of seven are disruptive).

**3**

Risk of large, urban outbreaks in cities, such as Lagos or Abidjan, with potential for international exportation.

**4**

Ongoing immunity gaps exist in high-risk countries, including an estimated 5.1 million unvaccinated children\*\*.

**5**

Risk rating increased in Kenya, Chad and CAR.

\*Definition of a large or disruptive outbreak: five or more cases in close space and time requiring response in endemic areas. Or >1 cases in an area previously without YF

\*\*Source: Administrative data from AFRO

## Mid-term evaluation

The year 2022 marks the halfway point in the Strategy's implementation plan that started in 2017 and will run until 2026. Hence, the importance of the mid-term evaluation conducted in these past months. It has assessed the overall progress of the EYE Strategy, and will help design the way forward.

The boxes below provide a summary of the draft recommendations.



**Recommendation 1:** Address critical human resource shortages for effective implementation of the EYE Strategy by reviewing human resource requirements at all levels (global, regional and country) and engage in joint (WHO/Pan American Health Organization (PAHO), UNICEF, Gavi) resource mobilization efforts.



**Recommendation 2:** Relaunch the EYE Strategy for increased political will, renewed attention to yellow fever at all levels and overall attention to global health security by developing strong business cases, organizing high-level events and disseminating advocacy and communication materials more broadly.



**Recommendation 3:** Expand and diversify the EYE governance structure (co-ordination and decision-making bodies) and the EYE partnership for improved ownership, effectiveness and efficiency.



**Recommendation 4:** Scale up the use of subnational risk assessments, conduct immunization gap analyses and implementation research of hard-to-reach communities and develop tailored outreach strategies to improve targeting of underserved, high-risk and vulnerable populations.



**Recommendation 5:** Improve integration and synergies for maximum impact by embedding relevant yellow fever activities into Immunization Agenda 2030 (IA 2030) structures; capitalizing on broader vaccine preventable disease (VPD) surveillance and vaccination efforts while, at the same time increasing links to vector control programmes and mapping other opportunities for multisectoral approaches.



**Recommendation 6:** Continue efforts to ensure robust supply chains, including clear mitigation plans to address risk of inadequate vaccine supply, and improve attention to surveillance and coordination for improved detection and faster response to outbreaks.



**Recommendation 7:** Revise the EYE M&E framework and its monitoring approach before mid-2023 and address new research findings to guide and adapt implementation.



**Recommendation 8:** Develop a three-year 'EYE transition and sustainability framework' for the period 2024-2026 to prepare for the end of the EYE strategy by 2026.



The full EYE Strategy 2017 to 2026 can be found [here](#).  
Further information on yellow fever can be found [here](#).

World Health  
Organization

unicef  
for every child

Gavi  
The Vaccine Alliance

A big thank you to all our partners and implementing countries for enabling our 2022 milestones.