



Optimizing Immunization Agenda 2030 (IA2030) implementation to support achievement of Global Strategy to Eliminate Yellow fever Epidemics (EYE) objectives

July 2021

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Acronyms

AFRO	WHO Regional Office for Africa
CDC	U.S. Centers for Disease Control and Prevention
COVID-19	Coronavirus Disease (2019)
DSWG	EYE Demand and Supply Working Group
EYE	Eliminate Yellow Fever Epidemics
EPI	Expanded Program on Immunization
FCV	Fragility, conflict, and violence
Gavi	Gavi, the Vaccine Alliance
GIS	Global Information System
IA2030	Immunization Agenda 2030
IHR	International Health Regulations
IVB	WHO Immunization, Vaccines and Biologicals
LG	EYE Leadership Group
LTWG	EYE Laboratory Technical Working Group
MOV	Missed opportunities for vaccination
MR	Measles rubella
PAHO	Pan American Health Organization
PMG	EYE Program Management Group
PMVC	Preventive mass vaccination campaign
RDT	Rapid diagnostic test
SIA	Supplementary Immunization Activities
SO	Strategic Objective
SP	Strategic Priority
TOR	Terms of Reference
TT	Task Team
UNICEF	United Nations Children's Fund
VDWG	EYE Vaccine Delivery Working Group
VPD	Vaccine-preventable disease
WG	IA2030 Working Group
WHE	WHO Health Emergencies Programme
WHO	World Health Organization
YF	Yellow fever
2YL	Second year of life platform

1.0 Purpose

The Immunization Agenda 2030 (IA2030) lays out a framework relevant to all vaccine-preventable diseases and provides the orientation for global priorities in the upcoming years through 2030. Embedded in the IA2030 approach is the specific mention of disease-specific programmes for high impact epidemic prone diseases with their own initiatives including the Global strategy for Elimination of Yellow fever Epidemics (EYE).

The EYE leadership group (LG) recognizes the importance of EYE within the IA2030 context and requested analysis to identify areas of shared priorities and interest between EYE and IA2030 to maximise the impact of yellow fever (YF) control activities. Specifically, the LG requested the EYE partnership clearly define and leverage areas of intersect between EYE and the IA2030. This mandate for core partners to formally assess the implications and intersects of EYE with the IA2030 led to the creation of the ad hoc task team (TT). The TT was requested to review IA2030 and identify how the EYE Strategy interprets itself through the IA2030 seven strategic priorities and the four core principles that drive the priorities, and how EYE can strengthen linkages with other vaccine-preventable disease initiatives and programmes. In addition, the LG requested the TT initiated exploratory analysis and dialogue on the eventual exit strategy for the EYE Strategy at the end of the 10-year course of the strategy in 2026.

2.0 Composition of Adhoc Task Team

The TT was established with inclusion of representation from core EYE partners and from stakeholders with expertise in YF and global immunization (Figure 1). The TT reports to the EYE programme management group (PMG) and is envisioned to provide a time-bound and focussed work to deliver on the LG direction to the EYE Strategy.

The TT explored how EYE can optimally address the following priorities: i) linkages with IA2030; ii) integration and linkages with other vaccine-preventable disease programmes, and iii) operationalizing these linkages for country-level impact. The TT shaped its inputs based on the strategic objectives of the EYE Strategy and approached the work with a holistic view of integrated yellow fever (YF) control. The full terms of reference (TOR) are located in the Annex 1.

Figure 1: Composition of Ad hoc Task Team

Organization	Focal person(s)
WHO WHE & EYE Secretariat	Jennifer Horton Rebecca Casey
WHO IVB	Alex Rosewell
PAHO	Yamila Romer
AFRO*	Blaise Bathondoli William Komakech
UNICEF	Yacine Ndiaye
Gavi	Cassandra Quintanilla
CDC Global Immunization Division (Vaccine Delivery Science Team)	Kirsten Ward Monica Shah

**Inputs awaited*

3.0 Ways of Working

The TT met on a bi-weekly basis in June 2021 to review alignment and differences of the EYE and IA2030 strategy documents, to map areas of intersect of EYE with IA2030 while maintaining a comprehensive approach to YF control, and to identify potential gaps and opportunities for greatest strategic return. These findings were analysed for thematic areas of greatest intersect and opportunity for the EYE Strategy and presented to the EYE PMG on 23 June 2021. A subsequent in-depth session was held on 7 July 2021 to facilitate fulsome discussion and input from the PMG.

Based on the dedicated TT sessions, and guided by the consultation with the PMG, this report has been developed to provide a summary of the findings and associated strategic recommendations on how EYE can work with and leverage IA2030 opportunities. As suggested by the PMG, the TT has also engaged in an exploratory dialogue on how to monitor progress of EYE/IA2030 TT recommendations going forward and proposed a summary of options for the PMG to consider regarding the eventual exit strategy for the EYE Strategy at the end of the 10-year course of the strategy in 2026.

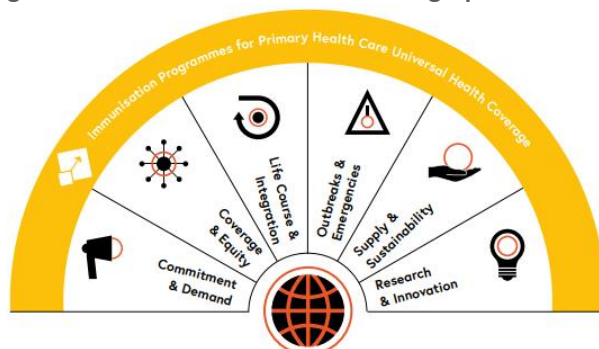
To support the development of the report, the TT continued to meet occasionally through July and August 2021 and share collaborative inputs over email and collective workspaces. This report offers recommendations as the product of the TT work and proposes a way forward for ongoing monitoring of intersect and impact.

4.0 IA2030 and EYE respective visions are aligned & complementary

IA2030 vision: A world where everyone, everywhere, at every age, fully benefits from vaccines for good health and well-being. This will be achieved with:

- Stronger partnership and coordination
- Enhanced country focus, tailored strategies
- Agility to adapt to context, for example emerging communication challenges relating to misinformation
- Enhanced monitoring and evaluation

Figure 2: IA2030 orients around 6 strategic priorities and four core principles



People
Centred



Country
Owned



Partnership
Based



Data
Guided

EYE vision: A world without yellow fever epidemics.

The strategy orients around three strategic objectives (SOs) with five competencies for success.

The EYE partnership aims to:



- **SO 1: Protect at-risk populations** (vaccination, risk prioritization)
- **SO 2: Prevent international spread** (urban readiness, at-risk workers, IHR)
- **SO 3: Control outbreaks rapidly** (surveillance, laboratory diagnostics, international samples transport, emergency vaccines for outbreak response)

EYE Competencies for success:

- Governance
- Political commitment at all levels
- Improved YF vaccine supply
- Synergies with other programmes and sectors
- Research and development for better tools and practices

The EYE Strategy differs from IA2030 in its intersects with areas outside of universal health care and immunization, for example:

- One Health principles and intersects (non-human primates, mosquito vectors etc.)
- Vector surveillance and control
- International Health Regulations 2005 (IHR) and border controls
- Clinical management

5.0 EYE and IA2030 — areas of intersect, gaps and potential opportunities

Areas of intersect, gaps and opportunities were discussed by the TT based on a systematic approach across the seven IA2030 strategic priorities (Annex 2). The TT members then reviewed these outputs to identify overarching opportunities, actions, and potential recommendations. Through the synthesis of these intersects, four key themes emerged:

- 1). YF visibility and advocacy
- 2). Integration and cross-learning
- 3). Equity and closing immunity gaps and,
- 4.) Surveillance, readiness, and response.

These findings were presented to the EYE PMG for feedback and discussion of next steps and recommendations of areas with greatest strategic yield for EYE. The PMG highlighted that there are a range of opportunities and that the IA2030 working groups (WG) will provide opportunity for EYE to engage with the broader immunization community on many cross-cutting issues. These groups are not yet finalized and may in some cases have very limited membership. Numerous core linkages between EYE leadership, PMG and the greater YF community were referenced. Nevertheless, where direct EYE representation is not possible on all WG, indirect connections with the remaining groups may provide similar opportunities to ensure YF prevention and control are brought to greater prominence in the immunization community and viewed as a priority with other vaccine-preventable diseases. Similarly, WG feedback mechanisms to EYE are not yet in place, but this will be a critical component to establish and maintain integrated efforts between EYE and IA2030 on key areas of work. This could be achieved by extending and adapting the existing TORs for the ad hoc TT to maintain dialogue with a minimum quarterly working session with routine reporting to the PMG.

The details of findings are summarized by thematic area as follows:

1. YF visibility and advocacy

In terms of efforts to improve YF visibility and advocacy, key areas of intersect between the EYE Strategy and IA2030 were noted as follows:

- Robust programme leadership, governance, and management (IA 2030 SP1)
- Ensuring that key groups advocate for greater commitment to immunization programmes (IA2030 SP2), for example existing key YF advocacy groups for EYE including the LG/PMG, Vaccine Delivery Working Group (VDWG), Demand and Supply Working Group (DSWG) and WHO Regional staff

However, gaps in YF visibility and advocacy still exist (Table 1) and there are several identified opportunities for increased EYE engagement in the IA2030 context.

Table 1: YF visibility and advocacy — Gaps and opportunities

Gaps	Opportunities for EYE in IA2030 context
EYE Strategy and priorities are not represented in all comprehensive planning initiatives at global, regional, and national level including IA2030, alignment with Gavi 5.0 and Full Portfolio Planning approaches.	EYE representation on IA2030 monthly Coordination Group/Partnership Council (Director level) to: <ul style="list-style-type: none">- highlight YF current issues more frequently and effectively than might be possible with existing leadership meetings- discuss progress through the IA2030 ownership and accountability framework EYE representation on (or connections to) all IA2030 working groups to:

	<ul style="list-style-type: none"> - ensure broad engagement and integration of EYE with IA2030 activities
<p>Sustainable transition to country ownership of YF immunization programme activities is not clearly articulated in EYE. This requires increased engagement with countries, especially ‘no regrets’ countries, to assure sufficient resources and sustained investment for “all” vaccines (including YF). This is particularly relevant for countries pending new YF vaccine introduction.</p>	<p>EYE representation on SP2: Commitment and Demand WG to:</p> <ul style="list-style-type: none"> - ensure YF is part of the narrative at all levels on country political commitment to immunization <p>EYE connection with SP6: Financial Sustainability WG to:</p> <ul style="list-style-type: none"> - advocate at all levels for country commitment to sustainable financing, including for strengthening routine YF immunization, YF introduction into routine immunization and YF campaigns (as needed) <p>Capitalise on increased opportunities for country-specific engagement for countries engaged directly in the IA2030 process, especially for specific high-priority EYE countries, for example Ethiopia if possible</p>

2. Integration and cross-learning

Stronger integration and cross-learning between programmes are important components of IA2030, and IA2030 intersects with the EYE Strategy in the following areas:

- Sustainable immunization services integrated within Primary Health Care (IA2030 SP1)
- Cross-sector collaboration & integration of service delivery for disease control & elimination (IA2030 SP4). Existing examples of integration and cross-learning between EYE and other programmes include:
 - Multi-antigen campaigns (country examples: Nigeria, Sudan)
 - Using YF preventive mass vaccination campaigns (PMVCs) as a mechanism to address zero-dose children for measles (country example: Democratic Republic of Congo)
 - Interventions for under-served populations in the fragility, conflict, and violence (FCV) context (country example: Sudan activities for refugees)
- Importance of research and innovation for better tools and practices (SP7), for example:
 - EYE VDWG existing intersect with Measles-Rubella (MR) Initiative regarding root-cause analysis, 5-dose presentation work, operational research, and other activities.

Gaps and opportunities in integration and cross-learning were identified as follows (Table 2).

Table 2: Integration and cross-learning — Gaps and opportunities

Gaps	Opportunities for EYE in IA2030 context
Primary health care and system strengthening is the basis for IA2030; but the emphasis is not as clear in EYE (more vertical approach)	<p>EYE connection with SP1: Primary Health Care/Universal Health Coverage WG to:</p> <ul style="list-style-type: none"> - highlight that YF vaccine introduction and PMVCs are an opportunity to strengthen the routine immunization programme

Limited opportunities to interact with and adopt new approaches from other programmes	<p>EYE representation on SP7: Research and Innovation WG to:</p> <ul style="list-style-type: none"> - maximise impact by cooperative creation, sourcing, adopting and scaling-up of innovations, for example new catch-up vaccination strategies, approaches to missed opportunities for vaccination (MOV), measles group research activities, Global Fund / Gavi / Gates investment and increased roll-out in country of global information system (GIS) tools and real time monitoring <p>EYE representation on Disease-Specific WG to:</p> <ul style="list-style-type: none"> - leverage work and innovations from other disease-focused programs (e.g., cholera, malaria), including surveillance, outbreak response, vaccination strategies and vector control strategies
Limited systems are in place for recording and sharing of data between programmes	<p>Promote recording and sharing of data between programmes, for example, sharing data from YF PMVCs/measles strategic immunization activities (SIA) and data on immunity gaps, for example unvaccinated communities and unmapped settlements across initiatives</p>

3. *Equity and closing immunity gaps*

Several key intersects between IA2030 and the EYE strategy were identified:

- **Everyone (at-risk) is protected by full immunization, regardless of location, age, socioeconomic status, or gender-related barriers (IA2030 SP3)**
 - For example, existing context-specific and tailored YF vaccination strategies e.g., urban slums and other hard to reach groups
- **Strengthen YF vaccination demand creation & community engagement (IA2030 SP2)**
 - For example, the work being done by the EYE VDWG
- **Strengthen immunization policies and service delivery throughout the life-course to close immunity gaps, including for appropriate catch-up vaccinations and booster doses (IA2030 SP4)**
- **Implement evidenced-based vaccine delivery practices, including approaches to reduce MOVs (IA2030 SP4; also, WHO Implementation Guide for MOVs)**
 - For example, based on a recent survey by UNICEF and policy to reduce MOVs, the VDWG will advocate for implementation

Key gaps in achieving equity and closing YF immunity gaps were discussed as follows along with opportunities in the IA2030 context (Table 3).

Table 3: Equity and closing immunity gaps — Gaps and opportunities

Gaps	Opportunities for EYE in IA2030 context
Even in contexts achieving high routine national EPI (Expanded	EYE representation on SP3: Coverage and Equity WG to:

Program on Immunization) and campaign vaccination coverage - ongoing pockets of unimmunized vulnerable groups exist, including migrant workers – this leads to accumulated risk of international YF spread as seen following YF outbreaks in recent years	<ul style="list-style-type: none"> - promote changes in legislation or in the policy of immunization to ensure YF vaccination of at-risk migrant workers by industry - ensure that YF is represented in broader routine immunization and health system strengthening activities - leverage COVID-19 vaccination introduction, campaign, and recovery efforts to improve YF vaccination coverage, especially in underserved groups
YF vaccination has historically not been prioritised in efforts to extend the focus of immunization beyond infancy, for example in the second year of life platform (2YL)	<p>EYE representation on SP4: Life course and Integration WG to:</p> <ul style="list-style-type: none"> - promote changes in policy of immunization and/or legislation to extend the focus of YF vaccination beyond early childhood immunization, for example to ensure that children aged > 12 months have opportunity to receive routine YF vaccination - ensure that YF is considered for inclusion in planning and implementing catch-up activities with other antigens including identifying the immunity gaps, for example measles catch-up. This will also reduce operational costs - emphasize the importance of tracking individual YF vaccination status throughout the life course, integrating other primary health care planning and records-keeping systems, for example: <ul style="list-style-type: none"> o 2YL routine immunization data-tracking to check vaccination status and provide missed YF vaccination e.g., to children > 12 months o school entry vaccination checks to include YF vaccination status o checks on adult YF vaccination status for employment and/or travel; noting that YF vaccination card lessons learned can be shared with other programmes as well - highlight that YF vaccination is generally well-received and targets the population across the life-course – this is a potential learning opportunity for other vaccines e.g., COVID-19 (or other health interventions) in terms of improving uptake, sensitization/ demand, and evidence-based delivery practices, noting shared benefits of investment in Risk Communication Community Engagement
Preparedness for future challenges which might affect demand for YF vaccine	<p>EYE representation on SP2: Commitment and Demand WG to:</p> <ul style="list-style-type: none"> - ensure that YF is included in ongoing efforts to improve understanding of behavioural and social drivers to vaccinations, including YF vaccination

4. Surveillance, readiness, and response

Intersects of EYE with IA2030 were noted as follows:

- **Comprehensive integrated vaccine-preventable disease (VPD) surveillance; enhance prevention and capacity to detect, investigate and respond to outbreaks, in conformity to IHR (IA2030 SP1, SP5)**
 - For example, Gavi investment to YF diagnostics strengthening and supply (procurement by UNICEF supply division)
 - EYE urban readiness project

- Long-standing representation of YF in IHR (2005) and EYE's emphasis on importance of YF vaccination for travellers
- **Ensure that coordination and governance mechanisms (all levels) effectively support equitable, transparent, timely decision-making on the allocation of outbreak response supplies (SP5)**
 - Well-established activities, process and performance indicators employed by the International Coordinating Group (ICG) YF outbreak response mechanisms are an example that may provide learnings for other programmes
- **Immunization programmes can anticipate vaccine-preventable disease outbreaks**
 - For example, YF Risk assessment working group (RAWG) work to allocate vaccine according to risk to better prevent YF outbreaks
 - EYE International Sample Transport project has reduced time to confirm YF outbreaks
- **Develop new technologies, and improve existing products for immunization programmes (IA2030 SP7)**
 - For example, Laboratory Technical Working Group (LTWG) work on YF diagnostic tools such as MacELISA HD Kit and the rollout of the Altona RT-PCR kit.
 - Ongoing innovative development and assessment of new rapid diagnostic tests (RDTs) could further advance diagnostics.

Table 4 shows the identified gaps and opportunities in YF surveillance, readiness, and response.

Table 4: Surveillance, readiness, and response — Gaps and opportunities

Gaps	Opportunities for EYE in IA2030 context
A more integrated outbreak readiness, detection and response approach could be beneficial, especially in FCV contexts. However, there is a lack of connectedness between EYE and existing WG and structures for VPD outbreaks (e.g., MR and polio outbreaks)	EYE connection with SP5: Outbreaks and Emergencies WG to: <ul style="list-style-type: none"> - ensure YF is represented in efforts to strengthen surveillance and ensure high quality outbreak preparedness/rapid response mechanisms, and embedded activities (Simulation exercises (SimEx), capacity building, Emergency Operations Centres etc.) - advocate for more systematic root cause analyses for outbreaks (as outlined in the monitoring and evaluations framework for the MR Initiative), including YF - discuss the use of measles cases and outbreaks as a tracer to identify immunization programme weaknesses and to guide YF programmatic planning, including implementation of RDTs with the measles group
Surveillance is often siloed and can be dependent on vertical funding streams	EYE representation on Disease-Specific WG to: <ul style="list-style-type: none"> - ensure coordinated surveillance efforts with other initiatives for disease control for mutual reinforcement e.g., arboviral disease
Though progress has been made in ensuring YF vaccine supply, challenges with other supplies and/or sample transport persist	EYE connection with SP6: Supply Security WG to: <ul style="list-style-type: none"> - highlight the progress made in improving and sustaining reliable YF vaccine supply and share lessons learned with other programmes - consider integrated efforts to secure funding and achieve timely sample transport at national and subnational levels

FCV contexts are high risk for YF outbreaks, but activities have limited development in EYE strategy workplans to date	Advocate for consideration of FCV contexts in cross-cutting discussions in all relevant working groups with particular focus on YF risk in such settings
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6.0 Options for EYE Strategy transition strategy

The EYE Strategy has a 10 year mandate through the end of 2026. The LG included in its request that there be initiation of dialogue on options for the EYE transition strategy. This challenge was reviewed and considered by the TT with reference to the roles and responsibilities of the EYE Governance structures. Options could include:

1) Extension of the existing EYE Strategy structure

This option would facilitate a continuation of the institutional memory and collaborative partnership towards YF control and maintaining and building the prominence of YF in the broader VPD community.

2) Creation of a new YF control structure, for example a less intensive structure (e.g., EYE-lite)

Specific details would need to be determined, but this option would offer flexibility to assume a new structure and update approaches to the current VPD landscape and build on the learnings from the EYE Strategy achievements. The YF-specific structure would support maintaining and building the prominence of YF in the broader VPD community.

3) Transition fully to an integrated model with other VPD programmes

An integration option may offer opportunities for efficiencies with other EPI activities, but has an inherent risk of a diminished awareness and prioritization of YF as a global health security challenge. The system-wide approach could yield benefits in the long-run for vaccination if YF was prioritized among EPI antigens, but may risk other aspects of YF control that are unique from other VPDs (e.g. vector control, One Health approach, IHR).

The TT concluded that the EYE governance structures, particularly the PMG would be best placed to explore and refine the transition strategy options. The decision should be based on assessment of pending needs/ activities towards 2026, and what other active structures there are at that time that could potentially absorb YF control functions.

7.0 Conclusion

EYE has many natural areas of intersect with IA2030, particularly regarding immunization, surveillance and outbreak preparedness and response. EYE also has areas which are unique from IA2030 priorities (e.g. (e.g.. OneHealth; vector surveillance & control; IHR/border controls; clinical management etc.) that have relevance across the four thematic areas of intersect and opportunity.

IA2030 provides a unique opportunity for EYE to increase engagement with the broader immunization community to elevate YF visibility and advocacy. This sustained engagement to ensure strengthened routine YF immunization will be critical to ensure the longevity of progress made by the EYE Secretariat in YF prevention and control. Currently, the EYE Strategy and priorities are not well-represented in comprehensive immunization planning initiatives at global, regional and national levels. However, the IA2030 process will offer opportunity to directly engage not only at leadership level (Coordination Group/Partnership Council), but also with several cross-cutting working groups and specific high-priority countries to ensure that YF is part of the narrative on diverse immunization challenges, such as ensuring country commitment and sustainable domestic financing for immunization, achieving high coverage and equity, reaching all persons for immunization through the life course, and using research and innovations to continually improve immunization service delivery.

Stronger integration and cross-learning between programmes are important components of IA2030. At present, there are limited formal channels for interaction between the EYE Strategy and other programmes, for example to facilitate the early adoption of evidence-based approaches or to share mutually beneficial programme or country data. EYE engagement with the IA2030 Disease-specific WG and the Research and Innovation WG (SP7) will create new opportunity to leverage work and innovations from disease-focused programmes (e.g., cholera, malaria) and other research groups, including vaccination strategies and approaches to missed opportunities to vaccination, as well as to promote the recording and sharing of data between programmes, for example data on unvaccinated communities.

Even in countries achieving high national YF routine immunization and campaign coverage, ongoing pockets of unimmunized vulnerable groups exist, which leads to accumulated risk of YF outbreaks and spread. In order to achieve equity and close YF immunity gaps, efforts will need to be made to ensure community demand for YF vaccination, to extend the focus of YF immunization beyond infancy and to identify and vaccinate unimmunized vulnerable groups. By collaborating with the Commitment and Demand (SP2), Coverage and Equity (SP3) and Life course and Integration WG (SP4), the EYE Secretariat can ensure that YF is included in wider efforts such as routine immunization strengthening and community demand initiatives, catch-up activities with other antigens, and integrated vaccination checks through the life course, for example during the second year of life and at school entry. The engagement will also provide a platform for the EYE Strategy to promote YF-specific changes in immunization policy or legislation to ensure YF vaccination is provided beyond infancy and to specific vulnerable at-risk groups, for example industry migrant workers, which is a critical component to prevent international spread.

Comprehensive integrated VPD surveillance to enhance prevention and capacity to detect, investigate and respond to outbreaks is highlighted in both IA2030 and EYE Strategy documents. This is especially important in FCV contexts. However, at present there is a lack of connectedness between EYE and existing WG and structures for other disease surveillance e.g., arboviral diseases and outbreak response e.g., polio, measles. Representation on the Disease-specific working group and maintaining connection to the Outbreaks and Emergencies (SP5) working group will provide opportunity to ensure that YF is represented in coordinated efforts to strengthen integrated surveillance and to ensure high quality outbreak preparedness and rapid response mechanisms. It will also be an opportunity to advocate for activities beneficial to YF control, such as more systematic root cause analyses in the outbreak context.

8.0 Recommendations of areas with potential for greatest strategic return

- EYE PMG and LG representation on select IA2030 Working Groups to assure enhanced visibility and alignment of YF work within the immunization field of work. Core YF representation to be included on:
 - Coordination Group/Partnership Council (LG level engagement)
 - Disease-specific WG
- EYE community to engage with the other IA2030 SP Working Groups through existing linkages and assure representation on these WG with active participation and regular feedback to PMG:
 - Commitment and Demand (SP2) (formalize the intersect with EYE VDWG)
 - Coverage and Equity WG (SP3)
 - Life course and Integration WG (SP4)
 - Research and Innovation WG (SP7)
- EYE PMG and partners to maintain connection with other SP WG:
 - SP1: PHC/UHC WG
 - SP5: Outbreaks and Emergencies WG
 - SP6: Financial Sustainability WG
- Additional documents to be created:
 - List of priority opportunities for discussion at each WG
 - List of EYE representatives and connections on each WG
- EYE to maintain the ad hoc TT structure to monitor and advise PMG on areas of intersect and update on IA2030 opportunities and progress until the input and feedback mechanisms with the IA2030 working groups to the PMG can be clearly defined and planned. This could be achieved by adapting the existing TORs for the ad hoc TT to maintain dialogue with a minimum quarterly working session with routine reporting to the PMG.

Annex 1: Terms of Reference of IA2030/ EYE Strategy Adhoc Task Team

Rationale (Role & Expected outcomes):

The ad hoc Task Team (TT) has been comprised based on the Eliminate Yellow Fever Epidemics (EYE) Leadership Group (LG) met 5 May 2021 and mandated that EYE formally consider the implications and intersect of EYE with the Immunization Agenda 2030 (IA2030). Specifically, the LG has requested EYE review IA 2030 and identify how YF interprets itself through its seven strategic priorities and four core principles that drive the priorities, how EYE can strengthen linkages with other vaccine-preventable disease initiatives and programmes, and to initiate exploratory analysis and dialogue on the eventual exit strategy for the EYE Strategy at the end of the 10-year course of the strategy in 2026.

Towards addressing these requests from the LG, the TT will be formed with diverse membership from across the EYE partnership. The TT will explore how EYE can optimally address the following priorities: i) linkages with IA2030; ii) integration and linkages with other vaccine-preventable disease programmes, and (iii) operationalizing these linkages for country-level impact. The TT will shape its inputs based on the strategic objectives of the EYE Strategy and will approach the work with a holistic view of integrated yellow fever (YF) control.

The work of the TT will build on EYE and YF technical team contributions to the IA2030 and Impact Goal Indicators and will also inform future dialogue on the vision for the EYE Strategy's transition at the end of its current mandate through 2026.

Note: areas that IA2030 will not solve: YF-specific immunization issues; likely to have issues regarding timely operationalization; governance and funding

Composition:

Organisational Name	Department / Team	Core Member
World Health Organisation HQ	<ul style="list-style-type: none">Health Emergency Interventions (HEI)Expanded Programme of Immunisation (EPI)	<ul style="list-style-type: none">Jennifer Horton (co-lead)Alex Rosewell
Gavi, the Vaccine Alliance	<ul style="list-style-type: none">Vaccine Implementation	<ul style="list-style-type: none">Cassandra Quintanilla
UNICEF HQ	<ul style="list-style-type: none">Programme Division (PD)	<ul style="list-style-type: none">Yacine Ndiaye
CDC	<ul style="list-style-type: none">Vaccine Delivery Science Team	<ul style="list-style-type: none">Kirsten Ward, Monica Shah
World Health Organisation AFRO	<ul style="list-style-type: none">Vaccine Preventable Disease (VPD)Emergency Preparedness & Response (EPR)	<ul style="list-style-type: none">Blaise BathondoliWilliam Komakech
World Health Organisation PAHO	<ul style="list-style-type: none">Immunisation, Family and Community Health	<ul style="list-style-type: none">Yamila Romer
Other...	<ul style="list-style-type: none">	<ul style="list-style-type: none">For feedback...

Activities

- Deliverables:**
- Review the IA2030 and implementation framework ([available here](#))
- Review Measles Rubella and Polio strategies / framework to align to IA2030 ([available here](#))
- Map areas of intersect, while maintaining a comprehensive approach to YF control (per EYE strategy - [available here](#))
- Concrete recommendations for EYE Strategy / IA2030

- Identification of areas of potential high strategic return and gaps and associated strategic recommendations.

1. **Identification of areas of intersect between EYE Strategy and IA2030 with potential high strategic return, as well as gaps**
2. **Based on 1, develop associated strategic recommendations and plan for alignment and integration of EYE Strategy with IA 2030**
3. **Consolidate above into a roadmap of implementation with key milestones, timelines and required actions**
4. **Brief the PMG with a concise summary of the areas with high strategic return, gaps and associated recommendations, alongside key required actions, and timelines.**

Timelines:

Initial **2-month scope**, with aim to develop core deliverables which will inform next steps by existing EYE entities and regional implementation teams.

Way of working:

- Participants to actively engage and prepare for each working session. Participants will be expected to contribute towards and complete specific tasks when agreed by the group.
- Weekly working sessions through 30 June at least. Pending the outcomes of the presentation to the PMG on 23 June, the frequency may then reduce to bi-weekly (possible)
- Records of the working session will be maintained by WHO HQ and disseminated for awareness to participants. The records will include brief NFR, links to recordings where relevant and key action points with task assignments to participants.
- Members are to access resources and share documents via the EYE SharePoint site ([Accessible here \[LINK\]](#))
- The TT will present to PMG 23 June the initial findings on the core deliverables. This presentation will be followed by a period for refinement of deliverables with a final summary report for delivery by the end of the 2-month scope (e.g., end July 2021)

Annex 2: Initial cross-mapping of EYE intersects & opportunities with IA2030

IA2030 Strategic Priority 1: Immunization in Primary Health Care / Universal Health Coverage —

Intersects with EYE Strategy

- Sustainable immunization services integrated within Primary Health Care
- Ensure breadth of protection (mean coverage for all vaccine antigens recommended by WHO, inclusive of YF vaccination where mandated)
- Comprehensive vaccine-preventable disease surveillance to ensure capacity to detect, investigate and respond to YF outbreaks
- Coordinated with other initiatives for disease control for mutual reinforcement e.g., arboviral disease
- Availability of trained health workforce knowledgeable about the importance of childhood YF vaccination
- IA2030 indicator: number of nursing personnel/vaccinators per 100,000 population per region
- Robust programme leadership, governance, and management
- Strengthen supply chain and logistics to ensure reliable vaccine supply based on forecasted needs and demands
- Promote integration with other supply chains for more effective delivery of primary health care

Gaps & Opportunities for EYE Strategy

- PHC is basis for IA2030, the emphasis is not as clear in EYE. System strengthening is not well delineated in EYE, as it's a more vertical approach
- YF vaccine introduction is an opportunity to strengthen the immunization programme
- EYE SOs are focused on YF control, thus intersect in areas outside UHC/PHC (e.g., multi-sectorial, prep/readiness, non-human aspect – e.g. One Health approaches, vector surveillance and control, NHPs; intersect also with other aspects that are outside PHC/UHC such as IHR/border controls)
- Renewed emphasis in IA2030 (not in EYE):
 - Vaccine safety monitoring - ensure that national immunization programmes can detect and respond to any concern about vaccine safety by continuous monitoring and coordination among relevant stakeholders
 - Comprehensive health information systems that allow for generation and use of high-quality data, including vaccination coverage

IA2030 Strategic Priority 2: Commitment & Demand

Intersects with EYE Strategy

- Ensure that key groups advocate for greater commitment to immunization programmes:
 - LG/PMG advocacy (e.g., with political elements/ Regions to assure visibility of YF control, commitment to Introduce YF to routine and/or complete PMVC
 - VDWG advocacy for YF vaccine introduction (e.g., Ethiopia, South Sudan)
 - DSWG work to ensure realistic, timely supply and demand forecasting (but challenging)
 - WHO Regions advocacy and technical support to countries for YF vaccination activities
- Establish accountability frameworks for all stakeholders, with platforms for engagement and dialogue:
- Immunization programme and other sectors (travel/entry) monitor YF risk in travelers (e.g., working w/ private sector for financing and protection of HR workers, strengthen screening at POE)
- Strengthen vaccination demand creation and community engagement
 - VDWG

Gaps & Opportunities for EYE Strategy

- EYE needs to ensure YF is represented in comprehensive planning initiatives at global and national level, including full IA2030 portfolio planning and Gavi 5.0: Theory of Change
- YF vaccination as a tool to addressing reluctance to vaccinate:
 - YF vaccination is generally well-received and could therefore be viewed as an opportunity for improving uptake of other vaccines; shared benefits of RCCE investment
 - Broad age range for YFV campaigns could be an opportunity to leverage for other antigens, such as COVID19

- Establish an ongoing understanding of all the behavioural and social drivers to vaccination:
 - Monitoring local data to understand and devise tailored solutions to address underlying causes of low vaccination rates e.g., MCV/YF gaps not currently well understood or actioned
 - New challenges to YF vaccination demand might arise, but not currently an EYE/VDWG priority
 - IA2030 indicator: Implementation of behavioural or social strategies (i.e., demand generation strategies) to address under-vaccination

IA2030 Strategic Priority 3: Coverage & Equity

Intersects with EYE Strategy

- Everyone at-risk is protected by full immunization, regardless of location, age, socioeconomic status, or gender-related barriers
- Context-specific and tailored interventions e.g., HR workers to prevent international spread, work of VDWG – urban slums/ hard to reach (geographically remote etc.)
- Identify and close immunity gaps through supplementary means of vaccine delivery, actively seeking to reach everyone and attain high vaccine coverages with PMVCs, mop-up, catch-up
- Data-guided interventions, countries should be engaged to perform periodic assessments of their vaccination coverage in areas at-risk for outbreaks of disease in order to identify gaps in coverage and respond proactively

Gaps & Opportunities for EYE Strategy

- To overcome barriers, national immunization programmes to use strategies based on proven, innovative approaches and local research on effective ways to deliver services to underserved groups
- Requires data and implementation research on where these underserved populations are (subnational level, systematically) and how to reach them
- Need to promote recording and sharing of YF PMVC/measles SIA data and sharing of information on unvaccinated communities and unmapped settlements across initiatives
- EYE focus is on HR workers, but could broaden to other mobile populations, including FCV context, migrant etc...
- Gender lens – reference: improved Country Guidance Toolkit
- Measles cases and outbreaks as a tracer to identify weaknesses in immunization programmes, and to guide YF programmatic planning
- Possible IA2030 indicator for reach of immunization services: >90% of eligible children in the disadvantaged population are reached and vaccinated according to national schedule

IA2030 Strategic Priority 4: Life Course & Integration:

Intersects with EYE Strategy

- Strengthen life-course approach, including for appropriate YF catch-up vaccinations
- Cross-sector collaboration and Integration of service delivery for disease control and elimination e.g., dual antigen campaigns (Nigeria), integrate non-vaccination interventions (e.g., vector control, clinical management)
- Implement proven approaches to reduce the number of missed opportunities, VDWG reviewing recent survey by UNICEF and policies to reduce MOV and will advocate for implementation

Gaps & Opportunities for EYE Strategy

- YF campaign target population is very broad, potential shared learning opportunity for other vaccines or health interventions in terms of sensitization/ demand and evidence-based delivery practices (e.g., other vaccine or health services)
- MOV / Catch-up explicitly mentioned in EYE, examples of country experience could inform other antigens
- Tracking vaccination status, integrating YF immunization into other primary health care planning, health registers and other record-keeping systems, and streamline use of all encounters with the health system
- 2YL RI data tracking to verify and provide missed YF vaccination e.g., to children > 12 months

- Promote changes in legislation or in the policy of immunization and other programmes to extend the national focus beyond early childhood immunization (e.g., YF vaccination of HR/migrant workers to be recorded by industry)

IA2030 Strategic Priority 5: Outbreaks & Emergencies

Intersects with EYE Strategy

- Strengthen integrated disease surveillance for epidemic-prone vaccine-preventable diseases to enhance prevention and response
 - Gavi investment to YF diagnostics strengthening and to ensure diagnostics supply (procured through UNICEF SD)
 - IA30 indicators: % of polio, measles, meningococcal disease, yellow fever, cholera, and Ebola outbreaks with timely detection and response; number of large outbreaks of vaccine-preventable disease
- Ensure that global, regional, national, and subnational coordination and governance mechanisms effectively support equitable, transparent, timely decision-making on the allocation of essential supplies and vaccines
 - ICG / outbreak response mechanisms (opportunity to improve timeliness and monitoring & reporting on OB response)
- Immunization programmes can anticipate vaccine-preventable disease outbreaks
 - EYE RAWG Risk assessment to prioritize PMVC – sequencing / prepare / mitigate
 - Planned “Risk? YF In Asia” workshop
- Urban readiness project under EYE (ongoing) – linkage to outbreak preparedness

Gaps & Opportunities for EYE Strategy

- Establish timely and appropriate immunization services during emergencies, and in communities affected by conflict, disaster, and humanitarian crisis
 - FCV activities have limited development in EYE strategy workplans to date, but to be developed
- Ensure preparation for detection of and rapid, high-quality response to vaccine-preventable disease outbreaks
 - Challenges to sample transport and funds to achieve– esp. within country (e.g., periphery to national laboratory), possibly impacted by polio funds ramp down
 - Existing WG and structures for MR and polio outbreaks could be intersect with EYE yet to be explored
 - Would like more systematic root cause analyses for outbreaks (as outlined in M&E framework)
 - Investment in YF outbreak preparedness – e.g., surveillance and streamlined OB response mechanism, and embedded activities (SIMS, capacity building, EOCs etc.)
- Integrated syndromic surveillance w/ Arboviral diseases (How?)

IA2030 Strategic Priority 6: Supply & Sustainability

Intersects with EYE Strategy

- All countries have a reliable supply of appropriate and affordable vaccines of assured quality
 - DSWG / UNICEF Supply Division & Gavi work for YFV supply – e.g., market shaping for YFV + procurement agreements by UNICEF Supply Division
 - EYE Criteria for Vaccine Allocation – comparators w/ different antigens (e.g., human papillomavirus vaccine, inactivated polio vaccine)
 - ICG stockpile assures 6 million doses of YF vaccine available at any time for outbreak response

Gaps & Opportunities for EYE Strategy

- Adequate country capacity to plan for and secure the financing required for their immunization programme
 - Sustainable transition to countries ownership is not clearly enunciated in the EYE Strategy
 - Cross-learning from other disease programmes
- Increase immunization expenditure from domestic resources

- Common challenge to engage with countries & assure sufficient resources and sustained invest for “all” (including YF) vaccination – particularly relevant for new intro. Needs advocacy

IA2030 Strategic Priority 7: Research & Innovation

Intersects with EYE Strategy

- Evaluate promising innovations and scale up innovations, as appropriate, on the basis of the best available evidence
 - Fractional YF vaccination – ongoing research
 - Predictive modelling for areas at risk, build from examples of other VPD and vector-borne disease (e.g., work ongoing for Ethiopia)
 - Develop new vaccines and technologies, and improve existing products for immunization programmes
 - LTWG – YF lab diagnostic – MacELISA HD Kit + rollout Altona PCR endorsement by LTWG, ongoing RDT work
 - Analysis on 5 dose vial, opportunity to piggyback on MR 5 dose work
- Shorten the path to maximum vaccine impact by implementation and operational research
 - VDWG / 1) linkage to broader work on immunization system strengthening and life course vaccination work 2) operational research (e.g., MCV1/YFV gaps, how to optimize strategies for different age groups (e.g., adult delivery)

Gaps & Opportunities for EYE Strategy

- New and improved products, services, and practices
 - Smart YF Vaccination Cards
 - Clinical management / therapeutics
- Maximise impact by cooperative creation, sourcing, adopting and scaling-up of innovations
 - Opportunities for integration with other vector-borne diseases and respective control programmes (e.g., malaria, dengue)
 - Leveraging work with MR Research Working Group and other innovations
 - Global fund / Gavi / Gates investment & increased roll-out in country context of GIS tools & real time monitoring – improved planning, implementation, and monitoring – how EYE can leverage

Annex 3: Overarching opportunities, actions and potential recommendations considered by Task Team Members		
Opportunities	Actions for EYE	Recommendations for PMG
Integration, including of YF vaccination with MCV1 as a part of PHC services. Integration & efficiencies both in routine immunization and in campaigns (planning and implementation), 5-dose presentation cohesion (MR and YF vaccination)	Explore what guidance could support integrations. Identify discrepancies in coverage (gap MCV1/YF vaccination) to evaluate and monitor the efficiency of this strategy. Ensure vaccine availability and advocate for political commitment at the national level	The introduction of YF vaccination in routine immunization programs and catch-up campaigns concurrently with the first doses of measles vaccine in endemic countries/areas represents a major opportunity to increase YF vaccination coverage in children during vaccination efforts against measles. It is important to develop strategies for catching up, particularly in the context of COVID, where campaigns were interrupted in most countries. These catch-up efforts include establishing efficient mechanisms for data monitoring (on susceptible population, percent coverage, forecasting supplies, etc.) and ensuring adequate vaccine supply
Improve coverage and equity to close immunity gaps	Identify immunization gaps, with a particular focus on young adult population as they are especially difficult to reach by vaccination programs yet are also the age group most affected by YF. Plan mass vaccination and catch-up campaigns tailored to reach under-immunized populations (using data from case surveillance, aggregated surveillance, vaccination coverage, access to PHC, etc.)	Integrate YF vaccination with other health interventions related to immunizations (Human papillomavirus vaccination, influenza, COVID); coordinate with industrial sectors to vaccinate at-risk workers; increase checking immunization status at borders
Increase the efficiency, responsiveness, and comprehensiveness of disease surveillance as part of PHC - integration of YF surveillance, potential for enhanced lab capacity	Strengthening the diagnostic capacity through diagnostic laboratory network will allow optimization of detecting and confirming suspected cases; integrated surveillance of nonspecific acute febrile syndromes with a less vertical strategy, allowing more efficient processing of clinical samples. Reporting cases in real-time will make it possible to detect pockets of under-immunized persons to target the campaigns and help to detect outbreaks more rapidly, allowing early response	Support and strengthen accessible diagnostic laboratory networks, promoting an integrated surveillance strategy with other endemic-epidemic acute febrile diseases (leptospirosis, dengue, rickettsiosis, etc.) that could mimic YF. Establish efficient mechanisms for case data monitoring
SP1 on service delivery and access as part of PHC: opportunity strengthen YF introduction as part of routine immunization	Identify and leverage opportunities for integration of efforts with other routine vaccines (including catch-up)	

SP3/SP4 to improve coverage and in relation to life course approach: catch-up vaccinations (including alternative and supplementary vaccine delivery methods) as a means to deliver YF and opportunity to improve coverage of other missed RI	Understand challenges unique to each country's vaccine delivery platforms and adapt EYE strategy according to local context	Identify in early planning opportunities for campaign integration, as well as vaccination of zero dose/ hard to reach communities.
SP6 on vaccine supply: advocacy and emphasis on investing in vaccine stock (including YF) and resources to distribute	Ensure adequate supply of YF vaccine stock (including research/innovations surrounding sizes of vial, e.g., measles)	
Vaccination for adults and travel – enhanced focus on this given COVID-19 vaccine delivery to adults and interest in ways to show proof of vaccination (i.e., electronic vaccination records)		
Cross-learning, for example, are there any studies planned to look at co-administration of COVID-19 and YF in adults?	Review key milestones for EYE and re-align with IA2030 and re-assess given COVID-19 context.	Highlight and share successes, challenges and lessons learned from the EYE strategy initiatives relevant to the strategic priority areas of IA2030 – share. Use this matrix and IA2030 platform with other disease strategies to map out clear items for knowledge sharing and collaboration (e.g., 5-dose vial analysis, disease surveillance, criteria for vaccine prioritization, monitoring...)
Commitment and sustainability: secure more sustainable financing for vaccination programs, incl. YF – how to ensure YF is part of a sustainable financing plan for RI in focus countries	Maintain up to date synthesis of evidence that informs the need for YF vaccine introduction and fill evidence gaps – basis for advocacy	
YF visibility. IA2030 advocacy esp. in areas yet to proceed with YF vaccination activities (e.g., routine immunization introduction, PMVCs)		Advocacy. Leverage IA2030 to increase YF visibility in broader immunization discussions, by having a YF representation in key SP workstreams and/or at leadership level
Innovation around technologies (e.g., learning from Polio, identify zero dose		Technologies for identify and tracing action on zero dose communities

communities, GIS, Measles as a tracer tools // YF etc.)		
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