



REPORT OF THE INDEPENDENT
REVIEW COMMITTEE TO THE
GAVI ALLIANCE ON THE
REVIEW OF APPLICATIONS



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List of Acronyms

2YL	Second Year of Life
AEFI	Adverse event(s) following immunisation
AFRO	WHO Regional Office for Africa
AMC	Advance Marketing Commitment
CCE	Cold-chain equipment
CCEOP	Cold-chain equipment optimization platform
CCL	Cold-chain logistics
COVID-19	Coronavirus Disease 2019
CSO	Civil society organization
EPI	Expanded Programme on Immunisation
EVM	Effective Vaccine Management
EYE	Eliminating Yellow Fever Epidemics
GPF	Grant Performance Framework
HIS	Health Information System
HPV	Human papillomavirus
HR	Human resources
HSS	Health System Strengthening
ICC	Inter-Agency Coordinating Committee
IRC	Independent Review Committee
JA	Joint Appraisal
JRF	WHO and UNICEF Joint Reporting Form
M&E	Monitoring and Evaluation
MCV	Measles-containing vaccine
MenA	Meningococcal Group A Vaccine
MR	Measles-Rubella Vaccine
MRI	Measles and Rubella Initiative
NGO	Nongovernmental organization
NITAG	National Immunisation Technical Advisory Group
NVI	New Vaccine Introduction
NVS	New Vaccine Support
PCCS	Post Campaign Coverage Survey
PCV	Pneumococcal conjugate vaccine
PEF	Partners' Engagement Framework
PMVC	Preventive Mass Vaccination Campaign
PoA	Plan of Action
RCM	Rapid Convenience Monitoring
RI	Routine Immunisation
SC	Supply chain
SCM	Senior Country Manager
SIA	Supplementary immunisation activity
SOP	Standard Operating Procedures
TA	Technical assistance
TCA	Targeted Country Assistance
TCV	Typhoid conjugate vaccine
ToR	Terms of Reference
VIG	Vaccine introduction grant
VPD	Vaccine-preventable disease
WHO	World Health Organization
YF	Yellow fever

Executive Summary

The Gavi Independent Review Committee (IRC) met on 2nd – 12th November 2020 and reviewed 11 applications from 10 Gavi-eligible countries, including 2 remote reviews. This was the third IRC meeting held virtually because of the COVID-19 pandemic.

Fifteen IRC members participated in this review round, including four new members who underwent induction training. Areas of expertise included: immunisation services; VPDs (measles, rubella, HPV, TF, YF); AEFI; health development and HSS; outbreaks, epidemic and emergency response; management and evaluation of health services; health policy and planning; primary health care; epidemiology and burden of disease; reproductive health, cold chain and supply chain management; health economics, health financing and auditing. Three members conducted in-depth financial reviews, and two members focused on cold chain and logistics issues.

During the review, the IRC members focused on the following specific tasks:

- Review of countries' funding requests and supporting documentation for vaccine introductions and campaigns to support national efforts to improve immunisation coverage and equity.
- Production of country-specific review reports and recommendations.
- Development of a consolidated report of the review round, including recommendations for improving funding requests and strengthening routine immunisation.
- Provision of recommendations to the Gavi Board and Alliance partners on improving processes relating to Gavi policies, governance, and structure.

Review modalities included:

- Desk review and virtual discussion in plenary with the participation of the full committee of 9 NVS applications from 8 countries.
- Remote reviews of two additional applications from Timor-Leste (HPV) and Ukraine (PCV AMC) without full committee discussion.

The IRC recommended approval of 10 out of the 11 applications reviewed in this round, with an overall approval rate of 91%. The total funding amount recommended for approval is US\$ 46 million in support of the immunisation of a target population of more than 71 million children and adults.

Table 1. Requests by countries and IRC review outcomes

Country	Application	Outcome	Country	Application	Outcome
DRC	Measles 1 st +2 nd dose*	Approval	Somalia	Measles 1 st +2 nd dose*	Approval
Gambia	MR follow-up campaign	Approval	Uganda	YF routine + campaign *	Approval
Madagascar	1 st +2 nd dose* + catch-up campaign	Re-Review	Remote Reviews		
Malawi	MR follow-up campaign TCV routine + catch-up campaign	Approval Approval	Timor-Leste	HPV	Approval
Nepal	TCV routine + catch-up campaign	Approval	Ukraine	PCV AMC	Approval
Senegal	MR follow-up campaign	Approval	* = Re-review from last round(s)		

Three applications were re-reviews from previous rounds. They were all recommended for approval, and the IRC noted again the higher quality and completeness of the re-reviewed applications with improvements often going beyond the specific action points requested in the previous IRC reports. Table 1 summarizes the specific requests by the countries and the IRC review outcomes.

During the reviews, the IRC identified several relevant issues in the applications submitted that are described in this report. The IRC also developed specific recommendations for consideration by Gavi, Alliance partners and countries to improve on the implementation of vaccine introductions and campaigns, on routine immunisation service delivery to increase coverage and equity, and on Gavi policies and procedures.

In this review, the IRC also identified several best practices proposed by countries, including:

- The collection and use of research and other epidemiological data for TCV, including good triangulation of several different types and sources of data (Nepal, Malawi)
- Limiting printing costs to the quantity needed to replace missing vaccination cards (Gambia)
- In the absence of an AEFI surveillance system, plans were made to train and appoint a designated spokesperson for interaction with the public and media (Somalia)
- Inclusion in the budget of a centralized worksheet for all assumptions, to which all calculation sheets refer (which facilitates simulations) (Madagascar)
- Particularly transparent budgets (Uganda)
- Inclusion in the plan of action of a section on the need to mitigate the impact of COVID-19 on routine immunisation (Malawi)

Methods and Processes

Methods

The Gavi Independent Review Committee met on 2nd – 12th November 2020. This was the third meeting held virtually because of COVID-19. The virtual meeting went smoothly with only a few IT and connectivity issues. To address some of the limitations of meeting virtually, the IRC experimented with the use of MS Teams for co-authoring documents or presentations and to facilitate personal or small group communication outside of the plenary sessions. The usefulness of this tool should be evaluated in future virtual rounds as some members had difficulty accessing or using it.

Fifteen IRC members participated in this review round, including four new members who underwent virtual induction training. Areas of expertise included: immunisation services; VPDs (measles, rubella, HPV, TF, YF); AEFI; health development and HSS; outbreaks, epidemic and emergency response; management and evaluation of health services; health policy and planning; PHC; epidemiology and burden of disease; reproductive health, cold chain and supply chain management; health economics, health financing and auditing. Three members focused on in-depth financial reviews, and two members focused on cold chain and logistics issues. (see Annex 1 for the list of participating IRC members).

The country applications and supporting documents were shared with IRC members about one week prior to the meeting. Based on these, IRC members reviewed and analysed the applications and prepared draft reports of their assigned countries. The Secretariat provided clarifications and any additional documentation needed.

The meeting started off with a welcome address by the Gavi Deputy CEO, Ms. Anuradha Gupta, who reminded the IRC about Gavi priority of ensuring that countries include in their plans specific activities to identify and immunise zero-dose children. She also mentioned additional elements to look for in the reviews including appropriate use of immunisation data, cost efficiency of proposed interventions, alignment of plans of action and budgets, impact of campaigns on RI, and consideration of gender issues in proposed strategies. The IRC was then updated by the Secretariat on the COVID-19 situation in Gavi-supported countries and Gavi support to “Maintain, Restore and Strengthen Immunisation” in the context of COVID-19. Thereafter, the briefings continued with updates from the Secretariat and Alliance partners on key topic areas relevant to this review round (i.e. vaccine updates (measles and rubella, TCV), M&E, and program financing.)

As for the July meeting, the IRC agreed that due to the rapid evolution of the pandemic, information on the current COVID-19 situation in the applicant country should not be included in the country report, though it could be mentioned, when relevant, in the different sections. It also agreed not to modify the established criteria for reviewing the proposals, which should continue to be based on technical merit, soundness of approaches, and value for money.

Each country proposal was reviewed by at least 2 IRC members, a primary and a secondary reviewer (3 reviewers were assigned to the proposals from Malawi, which included measles-rubella follow-up SIA, TCV introduction and TCV campaign, and from Nepal, with TCV introduction and TCV campaign). Each member reviewed the applications and supporting documents independently and prepared separate, individual reports. Cross-cutting issues of budgets and financial sustainability and supply chain and waste management were reviewed in each application by one financial crosscutter and one IRC member specialized in supply chain.

These reports were presented in daily virtual plenaries, during which the initial findings were extensively discussed, with a final, consensual, outcome recommendation of either approval or re-review. The Gavi Secretariat and Alliance partners supported the plenaries by providing information

and clarifications when needed, especially in terms of country-specific background and context. Most IRC decisions were agreed upon immediately at the end of the plenaries, though a few required postponing the decision to clarify outstanding issues or acquire additional documentation or information from the country, the Secretariat, or technical partners.

Eventually, all decisions were taken jointly by consensus with the involvement of all IRC members, except for remote reviews. The first reviewers then consolidated the discussion, decisions, and recommendations in draft country reports; these drafts were then finalized after editing, thorough fact and consistency checking and quality review.

There were two review modalities during this round, as presented in Table 2:

1. Desk reviews of 9 NVS applications from 8 countries with full committee discussions.
2. Remote reviews¹ by selected IRC members, without full committee discussions, of Timor-Leste request for catalytic HPV vaccine support and Ukraine request for access to the PCV AMC price.

Table 2: Country Applications by Type and Review Modality

Countries	Application/ Support requested	Modality	No. of applications
Gambia; Malawi; Senegal	MR follow-up	Desk review (Virtual)	3
DRC; Somalia	MCV2 introduction	Desk review (Virtual)	2
Madagascar	MR 1 st +2 nd dose introduction*	Desk review (Virtual)	1
Uganda	YF routine + campaign	Desk review (Virtual)	1
Malawi; Nepal	TCV routine + catch-up	Desk review (Virtual)	2
Timor-Leste	HPV	Remote review	1
Ukraine	PCV (AMC)	Remote review	1

* and MR Catch-up SIA

Criteria for Review

The review of the applications was guided by the IRC Terms of Reference and key concerns in line with Gavi's mission. These include the justification for the proposed activities; soundness of approach; country readiness; feasibility of plans; contribution to system strengthening; programmatic and financial sustainability; and public health benefit of the investment. The IRC adhered strictly to these guidelines in a bid to ensure that the integrity and consistency of the transparent funding process are guaranteed.

Decisions

There were two decision categories:

- I. **Recommendation for Approval** when no issues were identified that require re-review by the independent experts; the issues raised by the IRC will be addressed by the country in consultation with the Secretariat and Partners.
- II. **Recommendation for Re-review** when there are critical issues that require review by the independent experts; this will entail detailed revision of the application and a revised submission to the IRC.

¹ IRC "remote review" is applied when the proposal submitted is of limited nature and complexity, with minimal documentation needed. In this case, the review by the full IRC is considered not essential and the assessment is limited to two IRC members.

Table 3 presents a summary of the review outcomes for this round. Ten of the 11 NVS applications were recommended for approval. Overall proportion of recommendation for approval was 91%.

Table 3: Requests from Countries and Review Outcomes

Country	Application (* = re-review from previous rounds)	Outcome
NVS, campaigns and CCEOP		
DRC	Measles 1 st +2 nd dose *	Approval
Gambia	MR follow-up	Approval
Madagascar	MR 1 st +2 nd dose + catch-up	Re-Review
Malawi	MR follow-up TCV routine + catch-up	Approval Approval
Nepal	TCV routine + catch-up	Approval
Senegal	MR follow-up	Approval
Somalia	Measles 1 st +2 nd dose *	Approval
Uganda	YF routine + campaign*	Approval
Remote Reviews		
Timor-Leste	HPV	Approval
Ukraine	PCV (AMC)	Approval

Three applications were re-reviews from previous rounds. They were all recommended for approval, and the IRC noted again the higher quality and completeness of the revised submissions.

Key Findings and Recommendations

NVS and Campaigns

The IRC reviewed applications from eight countries for New Vaccines and Campaigns support. These were MCV2 introduction into routine (DRC, Somalia), rubella vaccine introduction into routine with a catch-up campaign (Madagascar), MR follow-up campaigns (Malawi, Senegal, Gambia), typhoid conjugate vaccine (TCV) introduction and catch-up campaigns (Malawi, Nepal), and yellow fever vaccine introduction and mass preventive campaign (Uganda). All countries, except for Madagascar, provided adequate justification for the proposed interventions. The two TCV applications were impressive in that they provided detailed epidemiological information and a careful analysis of proposed strategies.

Countries reporting very few cases of measles primarily justified the follow-up campaign on modelling data on accumulation of susceptible children. The IRC noted that, along with protection from maternal antibodies, MCV1 and SIAs, modelling continues to factor in an unrealistically low projection of MVC1 coverage for the following year (i.e. in the case of Madagascar only 14% MCV1 coverage for 10 months of 2021), and does not always take into consideration the immunity obtained from MCV2 and from the disease. At the same time, information on reported cases and outbreaks was lacking or scarce.

The IRC was pleased to note that one country, Senegal, applied for a selective and data-driven MR follow-up campaign, the first country to take advantage of Gavi SIA operational funding flexibility. This decision followed a detailed subnational analysis of epidemiological data and coverage information from RI and previous SIAs estimating that measles 0- and 1-dose children represent approximately 39% of the 9–59-month cohort. Senegal should be commended for its decision to move away from conducting non-selective follow-up SIAs and to develop focused strategies for reaching specific populations of children who have continuously been missed by the routine services and by SIAs.

Issue 1. Poor coordination in countries developing multiple vaccine proposals

Malawi submitted two proposals (TCV introduction and catch-up campaign and MR follow-up campaign), both accompanied by adequate documentation of the rationale for proposed interventions. Whereas the TCV plan of action was comprehensive and included information for implementing high-quality interventions, the MR follow-up campaign plan of action was general, with limited information on operationalization of articulated strategies at the subnational level.

As both proposals were submitted simultaneously, it was possible to consider the MR campaign PoA in the context of the TCV PoA, a document containing detailed and thoughtful approaches that could have been directly and rapidly translated into effective MR follow-up campaign implementation. Improved coordination and information exchange between country technical teams when developing separate, combined, or partially combined applications for different vaccines would be highly beneficial and would facilitate identification of synergies and opportunities for integration.

Recommendation:

- Gavi and partners to work with countries to ensure efficient coordination among country technical teams during preparation of multiple applications or multiple support requests, and to support countries by appropriate and coordinated technical assistance.

Issue 2. Limited involvement of the Ministry of Education

There are clear benefits in engaging with the Ministry of Education for campaigns involving school-aged children. The TCV proposals from Nepal and Malawi and the MR proposal from Madagascar all describe strategies to reach children in schools as well as out of school and signal engagement with

the Ministry of Education. In Malawi, despite being identified as critical to past HPV and measles campaigns involving school-aged children, the extent to which the Ministry of Education was involved in developing the application was unclear. Furthermore, regardless of which vaccination delivery strategy is applied, collaboration with the education sector to integrate positive public health messages within school programmes is desirable. By motivating students to adopt disease prevention behaviour and seek vaccination, schools can become even more important stakeholders in every health programme.

Recommendation:

- Gavi and partners to ensure that the active involvement of the Ministry of Education is included in application guidelines for all applications involving school-based vaccination (i.e. beyond HPV applications).

Issue 3. Selective versus non-selective MCV supplementary immunisation activities

Gavi operational costs flexibility remains insufficiently recognized and rarely used by countries applying for MCV SIA operational support. Countries continue to apply for traditional, non-selective nationwide SIAs without providing clear rationale for their choice. It appears that traditional nationwide SIAs continue to be supported by technical partners who often do not propose alternative approaches and context-specific solutions.

Three countries (Senegal, Gambia and Malawi) applied in this round for support for MR follow-up campaigns targeting children from 9 to 59 months. Senegal provided a clear justification for a selective SIA approach based on a comprehensive situation analysis of subnational epidemiological and post-campaign survey coverage data, concluding that the children missed by routine immunisation services are also missed in mass non-selective vaccination campaigns. The country therefore saw clear benefits in vaccinating selectively un- and under- immunised children in the 9- to 59-month cohort, to reduce the risk of potential outbreaks.

The Gambia, on the other hand, discussed conducting a geographically targeted SIA, but decided against it due to concerns that delivering MR only to specific districts or localities could be politicized, that vaccine and device shortages may result from parents in untargeted areas bringing their children to areas targeted for vaccination, and that the differential cost for a national campaign compared to a targeted campaign is likely to be small. In a country like The Gambia, with relatively good control of measles, a non-selective approach may reduce measles incidence but will unlikely result in programmatic improvements.

Recommendations:

- Gavi should continue to encourage and support countries to make use of operational costs flexibility and develop focused strategies and impactful plans based on epidemiological evidence, to ensure efficient use of local resources and good return for investment.
- Countries with well-performing programmes applying for repeated traditional non-selective SIAs should provide detailed and clear justification for selecting such approach over focused and data-driven campaign strategies that could be more effective in reaching all children who had not previously received two doses of MCV.
- Gavi Alliance partners should support thorough and independent evaluations of both the Senegal and The Gambia MR campaign approaches.

Issue 4. Considerations for typhoid conjugate vaccine applications

In this round, Malawi submitted a proposal for a TCV campaign for those aged 9 months through 14 years, followed by routine introduction at 9 months. The 9-month age for TCV administration seems

reasonable given high typhoid fever incidence in the 0-4 year age group. Nepal on the other hand opted for the introduction of TCV at 15 months, coupled with a catch-up campaign from 15 months through 14 years. The decision to introduce at 15 months rather than 9 months was explained in programmatic terms, including opportunities to establish a 2YL platform and fewer simultaneous injections. WHO/SAGE recommendations provide countries with flexibility to select the most appropriate age of introduction based on epidemiologic and operational considerations. While typhoid is uncommon below 6 months of age, in some high incidence settings the disease may be frequent from 9 to 15 months and children in this age range could be left “unprotected”. Thus, consideration of both the epidemiology of typhoid in infants and young children and operational factors should be included in strategic planning and justification of operational approaches.

Both Nepal and Malawi applications had strong epidemiologic and antimicrobial resistance data. Countries without such high-quality incidence studies and blood culture data will find it harder to make a case for vaccine introduction based on high incidence. WHO/CDC ‘Burden and Risk Assessment of Typhoid (BRAT)’ tool should be available soon and can become an additional useful tool for these countries.

Recommendations:

- Countries should be requested to include in the application the operational or epidemiological rationale for selecting introduction age, including typhoid incidence or occurrence by age for infants and children under 5 years, split by months of age, if available.
- Once available, Gavi should encourage applicant countries to use, critically appraise and provide feedback on the Burden and Risk Assessment of Typhoid tool.

Issue 5. Considerations on Yellow Fever Vaccine applications

The Eliminating Yellow Fever Epidemics (EYE) strategy aims at ensuring universal access to yellow fever immunisation so that every person in at-risk countries is protected against the disease. The strategy is based on a three-pronged approach including responding to yellow fever outbreaks, wide age-range preventive yellow fever mass vaccination campaign (PMVC) and nationwide introduction of yellow fever vaccine into the national immunisation schedule. For applicant countries, Gavi recommends considering introduction of yellow fever vaccine into the routine immunisation schedule within 6 to 12 months of conducting a preventive mass campaign.

As a part of its long-term approach aimed at eliminating outbreaks of yellow fever, Uganda, classified as a high-risk country, applied for support to conduct a PMVC for population from 9 months to 60 years, and for vaccine introduction into routine EPI for 9-month old infants. PMVC and vaccine introduction would complete the essential elements for control of the disease and are necessary for an effective strategy to eliminate epidemics. While the country NITAG recommended the simultaneous campaign and routine introduction at 12 months of age, the country, in the absence of WHO introduction and/or combined vaccination strategies guideline, diverged from this recommendation. This was justified by the large target population size (close to 42 million) and the reality of limited vaccine supply. Uganda is now planning to conduct the PMVC in three annual phases (2022, 2023, 2024), starting one year after nationwide introduction (2021).

Implementation over four years carries the risk of unnecessary duplicate YF vaccinations for children covered by the routine EPI. In the proposed scenario, the lower age limit for the 2022 campaign should be 21 months, for the 2023 campaign 33 months, and for 2024 campaign it should be 45, and not 9 months of age. Although the plan of action states that the lower age limit for the campaign will be adjusted depending on the year of introduction, the actual age limits were not reflected in the PoA or in the budget. Considering the size of birth cohort in Uganda of 1.65 million and the high birth rate,

the difference in targeted population would have an important effect on planning and even more so on the budget.

Recommendations:

- Gavi and partners should discourage countries from deviating from Gavi guidelines and national programme recommendations for combined vaccination strategies. Should this be justifiable with programmatic reasons, including vaccine supply constraints, the target population size, risk of spread and global strategies, countries should include subnational population projections to guide planning and budgets.
- Gavi should request that technical partners provide prudent programmatic guidance for combined vaccination strategies (i.e. preventive wide age-range mass campaign and introduction into routine schedule) and clear technical guidance related to the introduction and provision of the yellow fever vaccine in the national immunisation programme.

Coverage and Equity

Issue 6. Equity issues are described, but gender analyses are still limited, and equity description is not clearly aligned with strategies

Most applications reviewed include a description of equity issues, but gender analyses are still limited to comparison of coverage between sexes and equity description is not clearly reflected in proposed strategies and interventions. For example, no strategies are provided to address out-of-school children in campaigns relying on school vaccination sites (Nepal); no catch-up plan was provided for pregnant and lactating women left out of the YF vaccine campaign (Uganda); and responsibility for equity strategies were often delegated to local microplanning in applications.

Recommendation:

- Countries should ensure that descriptions of equity in applications align with specific activities in Plans of Action and budgets to address the concerns identified.
- Gavi and partners should support countries to conduct more relevant and nuanced equity and gender analyses and incorporate findings into proposals.

Zero-dose and incompletely vaccinated children

Issue 7: Outdated policies and arbitrary upper age limits for administering missed vaccine doses impose unnecessary barriers for zero-dose children.

Efforts to reach zero-dose children have been a priority for Gavi, and progress is evident in some of the applications submitted in this round. For example, the Senegal MR follow-up campaign will employ a selective approach to focus efforts on reaching under-immunised and zero-dose children. The Gambia application mentioned that they would catch up with other missed vaccines for children up to 59 months during their MR follow-up campaign, but the catch-up policy was not detailed.

However, immunisation policies in many countries still include age limits for routine vaccinations that prevent zero-dose children, even if identified during other health care contacts, from getting caught up in the second year of life and/or beyond. For example, Malawi has limited administration of TCV to children up to 11 months old, and DRC limits MCV catch-up to 23 months. While Somalia changed its policy to allow MCV up to 24 months, it does not allow for catch-up beyond that age, despite the high numbers of zero-dose children. However, having recognized the issue, the country has made the immunisation policy 'a living document', allowing for easier updates of this document. Additionally, it is unclear how the policies are communicated and explained to the health workers/vaccinators at the service delivery level.

As this practice may be new to health workers, targeted training would be needed in assessing and determining eligibility, managing multiple injections, appropriate spacing of vaccines to be caught-up, and recording/reporting of caught-up doses. To be successful, catch-up vaccination efforts must be accompanied with strong communication activities for community acceptance and supportive supervision. With many countries experiencing interruption or reduction of services due to COVID-19 pandemic, catch-up policies and vaccination schedules will become an important component of routine immunisation programme.

Recommendation:

- Gavi and partners should work with countries to revise policies regarding age limits to include a catch-up vaccination policy with clear directives on the provision of missed vaccine doses. This may require additional technical assistance to advise on adequate catch-up vaccination strategies and modifying Gavi policies to allow the allocation of the additional doses needed for older zero-dose and incompletely vaccinated children.

Data Quality and Use

Issue 8. Inadequate use of measles and rubella surveillance data to identify underserved populations

Countries with good EPI performance are not routinely using measles and rubella surveillance data and information from outbreak investigations to identify pockets of unimmunised or under-immunised children or poorly performing areas. Furthermore, they do not always consider the quality of surveillance as indicated by quality of subnational surveillance indicators.

For example, The Gambia described an outbreak of measles, but there was no evidence that information from an outbreak investigation had been used to identify underserved communities or inform target strategies. Malawi presented data on the number of laboratory-confirmed measles cases from 2015 -2019, but the vaccination status of these cases was not available, thus making it impossible to determine if these cases were preventable. Furthermore, subnational surveillance analysis showed that only 6/28 (21%) of districts met standards for surveillance sensitivity, thus decreasing the usefulness of surveillance to represent the country's burden of disease.

As the performance of EPI programs continues to improve, sensitive surveillance and the use of surveillance data to identify remaining underserved populations will become increasingly important to identify and target these groups for vaccination.

Recommendation:

- Gavi and partners to continue working with countries to ensure measles and rubella surveillance data are collected and used to support decision-making and proposal development.

GPF indicators and targets

All countries submitted a Grant Performance Framework (GPF) as per Gavi guidance, though one country (Uganda) did not submit the complete GPF but only the specific indicators. In only 30% of the applications the GPF was fully aligned with indicators and targets as described in the PoA. Mandatory GPF targets were provided in 92% of applications but only in about half (48%) were considered realistic and achievable by the IRC.

While all applications included a description of the M&E activities in the PoA, in most cases only a minimum amount of information was provided, insufficient to assess the robustness of the proposed activities. Tailored process or outcome indicators were included in only two applications (15%). For vaccine introduction, only 4 out of 6 proposals included a provision for a PIE, while, for campaigns, 5

out of 7 proposals mentioned the use of the WHO SIA assessment tool, and 6 out of 7 made provision for a PCCS and RCM.

Issue 9. Information on M&E framework included in the PoA is often limited and incomplete.

The limited description of the Monitoring and Evaluation framework limits the possibility for the IRC to assess the appropriateness of proposed activities and indicators and the capacity of countries to adequately monitor and evaluate the implementation of the proposed PoAs.

Recommendation:

- Gavi and partners to work with countries to ensure that applications submitted for IRC review include all the required M&E information, including details of the M&E framework and appropriate and coherent indicators and targets.

Issue 10. Most applications only include the core indicators and targets listed in the standard GPF template.

Very few applications include additional tailored process or intermediate results indicators for new vaccine introductions or campaigns. While Gavi does not require countries to add tailored indicators for NVIPs and SIA proposals, WHO guidance provides lists of recommended indicators which are considered important for monitoring and evaluating the implementation and identifying lessons for future improvements.

Recommendation:

- Gavi and partners should encourage applicant countries to include in the PoA and in the GPF additional tailored process and intermediate results indicators, following WHO recommendation, as it is currently the case with HSS applications.

AEFI

Issue 11: Despite increasing capacity to report AEFI and continued Gavi investments, countries are not reporting on performance and the analyses of data are not included in applications.

Concerns about safety of any vaccine have a potential to decrease acceptance of all vaccines, derail national immunisation programmes, and lead to resurgence of vaccine-preventable diseases. Therefore, national AEFI surveillance systems remain key components in ensuring the safety of vaccines and maintaining public confidence in vaccines and vaccination programme. Strengthening the technical capacity for AEFI surveillance systems in countries has been a standing IRC recommendation. Although we have seen AEFI reporting rates in countries slowly improving to meet minimal capacity indicator (>10 reported AEFI cases/100 000 surviving infants/year), countries are still not analysing their data and are not reporting on performance.

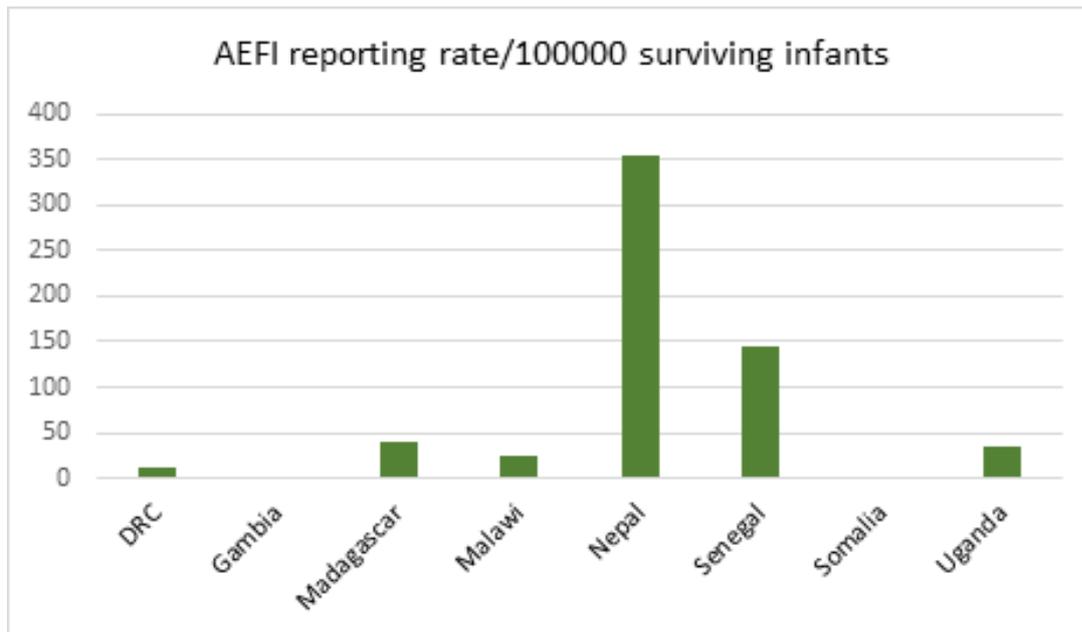


Figure 1: AEFI reporting rates in 8 countries reviewed in plenary (source: JRF 2019)

Of 8 countries applying for support in this review cycle, 7 (DRC, Gambia, Madagascar, Malawi, Nepal, Senegal, Uganda) reported having a national system to monitor AEFI and an established expert AEFI committee. Somalia does not have an AEFI surveillance system but plans to appoint and train a designated spokesperson who would publicly intervene on behalf of the Ministry of Health, should the need arise. Only 5 countries (DRC, Madagascar, Malawi, Nepal, Uganda) reported small numbers of observed serious AEFI, and only one country (Gambia) did not have AEFI reporting rates meeting minimal capacity indicator. However, all countries requested funds for AEFI surveillance through their requests for support.

Recommendation:

- Gavi and partners should continue to support efforts to strengthen AEFI surveillance systems in countries and include in annual appraisal mechanism a section on AEFI reporting and the analysis of any emerging concerns and rumours with the potential to disrupt national immunisation system.

Issue 12: Introduction of a new vaccine with limited safety data in countries with weak AEFI surveillance systems warrants robust safety monitoring, including active vaccine safety surveillance.

Two countries (Malawi, Nepal) applied for the introduction of typhoid conjugate vaccine (TCV). Traditionally, in limited resource countries, vaccines were introduced after years of use in other more robust immunisation programmes. Now, with TCV, we have a new vaccine, with no prior global usage or parallel use in a developed country, introduced directly with limited data and with preceding mass campaigns in countries with weaker AEFI surveillance.

While there were no identified adverse events of special interest in pre-licensure phase, it is unclear if there are still open questions or knowledge gaps. If these exist, mass campaign vaccination can magnify the issues as larger exposure in a short time could increase a potential impact. While this will put great responsibility on their surveillance, Nepal and Malawi plan TCV safety monitoring only through their passive AEFI surveillance systems. Although TCV safety profile is deemed reassuring based on available but limited data, and even with results from large trials on the way, the absence of prior theoretical safety concerns warrants robust safety monitoring.

In the environment of potential quick roll-out of vaccine products using new technologies against a novel target pathogen, the need of systems with capacity to identify, report, detect signals, investigate, analyse and assess causality and finally respond to AEFI will be of utmost importance. Countries should be supported in robust monitoring of TCV safety, especially to add data on co-administration with other vaccines and use in special populations to detect any signals which may require further investigation. It would be important to consider monitoring systems/tools to rapidly identify any emerging issues and concerns, including active vaccine safety surveillance, especially in settings where passive AEFI surveillance systems are limited. Since data can be collected quickly and effectively during a well-organized campaign, the campaign itself may in fact allow for effective active safety surveillance.

Recommendation:

- For newly deployed vaccines with limited safety data, Gavi and partners should support countries in rigorous review of collected data and in identifying the appropriate AEFI surveillance method, including active vaccine safety surveillance.

Supply Chain and Waste Management

Issue 13. Need for passive containers for campaigns

The lack of passive containers may impact on the quality of campaigns and new vaccines introduction. Although countries included in this round provided information on their vaccine storage capacity, the analysis is still limited to active equipment (i.e. cold rooms, fridges). Countries provided little or no data on passive equipment (i.e. cold boxes and vaccine carriers), which is essential for transport of vaccines and their storage for community and school-based outreach. Uganda provided passive cold chain inventory data but failed to budget funding to acquire missing equipment, and Malawi included needs for vaccine carriers in its proposal without supporting data.

Recommendation:

- Gavi and partners to continue supporting countries to conduct a comprehensive cold storage gap analysis and the identification of needs, including passive containers.
- Gavi and partners to ensure that countries seize opportunities like campaigns and new vaccines introduction support to fill passive cold chain equipment gaps.

Issue 14. EVM assessment and improvement plans

Several countries (The Gambia, Madagascar, Senegal) are 5 years or more past the last EVM assessment and their improvement plans are outdated. It is therefore difficult to assess the performance of their supply chain and their readiness for new vaccine introduction or campaign. The IRC understands that COVID-19 travel restrictions delayed assessments that were already scheduled. The IRC is pleased to learn that action has been taken by the partners to provide remote support to these countries to conduct a new evaluation.

Recommendation:

- Gavi and partners to provide support to countries for the revision of their plans of action (NVI, campaign) considering the new EVM assessment findings, and for the timely implementation of actions to ensure quality vaccine introductions and campaigns.

Issue 15. Waste management still requires significant improvement.

The IRC has repeatedly commented on insufficiencies in management of waste which has become an established weakness in countries. The Committee is pleased to learn that the Secretariat and partners have undertaken actions to improve management of immunisation waste such as situation analysis

and the implementation of existing guidelines. The appropriate and safe management of bio-medical waste requires significant technical and financial resources. To be sustainable, it cannot be limited to vaccination activities like SIAs but must become a priority for the entire health system.

Recommendations:

- Gavi Secretariat should strengthen its collaboration with partners beyond immunisation to ensure the mobilization of sufficient technical and financial resources to help countries implement sustainable solutions for the management of biomedical waste.
- Gavi Secretariat and partners should work with countries to identify reliable and affordable technical solutions to waste management, promote their adoption by countries through operational research and advocacy, and provide technical and financial support for equipment installation, operation and maintenance. Collaboration with the private sector should be considered a critical success factor.

Budgets, Financial Management and Sustainability

In this round we reviewed 13 budgets from 8 country applications totalling US\$58.6 million. The requested Gavi contribution of US\$55 million accounted for 94% of the total budgets. As shown in the graph below, only 3 country applications (DRC, Gambia, Senegal) have included government and partners' contributions.

Uganda budget accounted for 47% of the total requested Gavi contribution, while Madagascar, Malawi and Nepal accounted for another 43% of this amount, and the remaining countries (DRC, Senegal, Somalia, Gambia) accounted for 10%. The breakdown of the Gavi contribution by antigen was 47% (US\$26 million) for Yellow fever, 24% (US\$13 million) for TCV, 22% (US\$12 million) for Measles-Rubella and 7% (US\$4 million) for Measles.

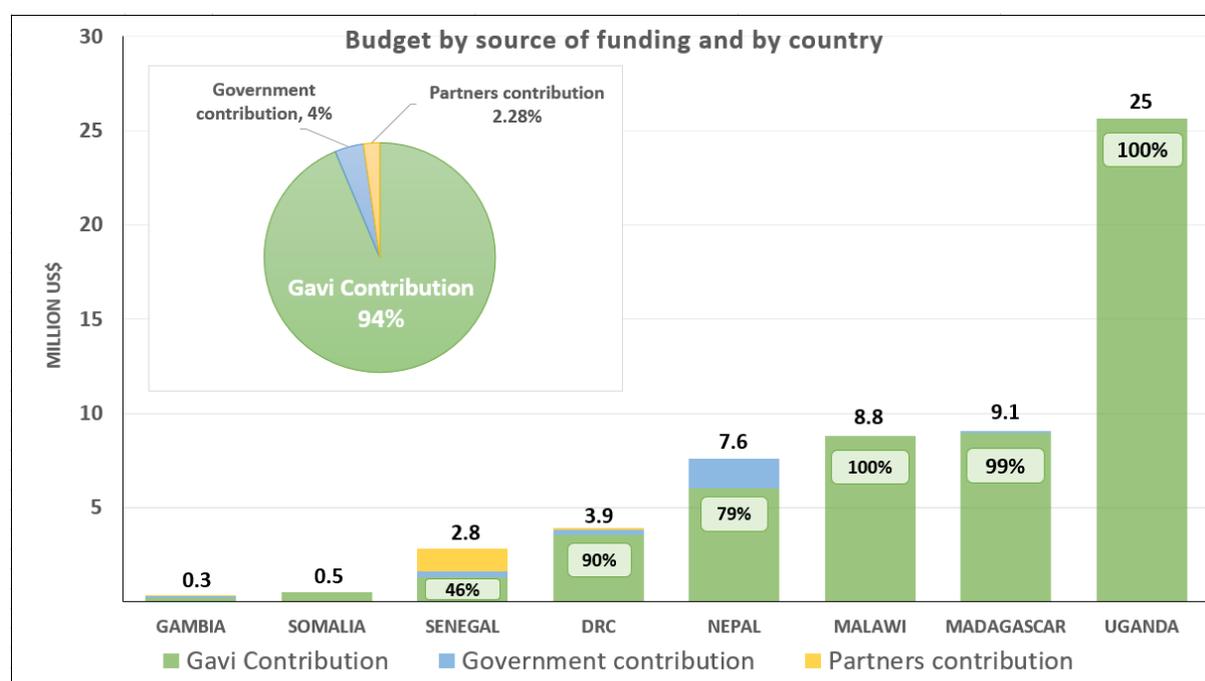


Figure 2: Gavi budget contribution by country

Issue 16: While budgeting continues to be a major challenge, there is welcome evidence of improved quality in many budgets submitted in this round.

Budgets submitted in this round showed a general trend in quality improvement, with less duplication and some attempts to integrate activities. For example, Malawi integrated the TCV VIG budget and campaign budgets but was less successful in integrating selected activities of the MR campaign and the TCV campaign. Madagascar combined communication and social mobilization activities of the two grants to achieve better synergies. Both Madagascar and Nepal budgets were well-designed and clearly articulated.

The greatest improvements in the quality of budgets were found in the re-reviewed applications of DRC and Uganda. Both applications complied to a large extent with the IRC recommendations from the last two rounds. DRC reduced the share of HR cost in the total budget from 49.8% to 13% by reducing the share of DSA in the activities. DRC also reduced the share of training in the total budget from 74% to 27% and achieved a better alignment of the budget with the PoA with a more balanced resource allocation to planned activities. Uganda presented a much more transparent budget with budget narrative and detailed calculation assumptions. In addition, the budget was better aligned with the PoA and the requested amounts were reduced by US\$2.9 million.

Recommendations: Gavi and partners to continue:

- clarifying budget guidelines and pre-screening budgets.
- ensuring countries have access to TA for budget preparation.

Issue 17. Some budget issues identified previously are still prominent

Several budget issues identified in previous rounds were still evident in the reviewed applications:

a. Misalignment of the budget with the PoA

The Uganda VIG budget was largely misaligned with the PoA as 94% was allocated to three activities. In the Malawi application, significant discrepancies were noted between the MR budget and the PoA.

b. Misclassification of activities and input costs

In the DRC and Uganda applications, both HR and transport costs were classified under other cost groupings, resulting in a zero cost for both inputs. A re-classification of these costs revealed that in the DRC budget HR costs accounted for 13% and transport costs accounted for 29% of the budget. These shares were respectively 36% and 15% of the Uganda VIG budget. Similarly, in the Nepal application the budget template showed a zero HR cost, but a reclassification showed that HR costs accounted for respectively 46% and 49% of the OPC and VIG budgets. The Gambia application showed a 5% HR costs, but the actual figure was 37%.

Misclassifications in activity grouping prevent a high-level analysis of the budget: Madagascar classified about US\$1 million for budgeted campaign tools (cards, guides) under Health Information Systems (HIS) instead of service delivery. As a result, the share of HIS in the total budget was increased from 9% to 20%.

c. Missing budget calculation assumptions, lump sum allocations, calculation errors

We noticed an improvement in budget transparency, as calculation assumptions and details are usually provided. However, budget narrative was often missing (Malawi, Somalia, Senegal) and lumpsum allocations were prominent in some applications (Uganda, Madagascar). The programmatic rationale and justification for planned input quantities are generally missing in most applications.

d. Inflated unit prices and quantities

Inflated unit prices remain an issue in many applications. For example, because of inflated unit prices PPE supplies totalling US\$1.6 million were included in the Malawi application. Applying the unit prices of the WHO global supplies catalogue for COVID-19 would result in a saving of US\$ 964,215. Similarly, the unit cost of US\$2,210 for the installation of a single refrigerator (DRC), or the daily fee rate of

US\$700 for a technical assistant (Uganda) appear highly inflated. In the Madagascar application, estimates of gas consumption and unit prices were also clearly inflated.

Large quantities of inputs are often used in budget calculations without supporting justification and programmatic rationale. This was most notably in the Malawi application where large quantities of fuel, megaphones, PPE, and TV and radio spots are major cost drivers. In addition, some costly activities with no obvious added value and no justification in the respective PoAs appear in several budgets. This was for example the case of the costs for procuring T-shirts and printing brochures (US\$ 1.6 million), and the printing of vaccination cards (US\$3.7 million) in the Uganda application. For Madagascar, the vaccination cards quantities in OPC budget are 11% higher than the target population and in the VIG budget the number of cards to be printed is 122% higher than the target population.

Finally, in several campaign budgets (Madagascar, Uganda) per diems and vehicle rentals are generally budgeted for 2 days longer than the campaign duration, without proper justification.

e. High share of the budget allocated to HR costs

HR costs were generally not a major issue in this round, with two exceptions: Senegal, with 90% of Gavi contribution allocated to HR costs, and Malawi, with 49.6% of the MR budget allocated to HR.

f. Additional funding sources are not always disclosed.

The disclosure of funding sources remains an issue as only 3 countries in this round included partners' contributions (i.e. DRC, Gambia, Senegal).

Recommendation:

- Gavi and partners to continue efforts to implement past IRC recommendations on the above issues

Issue 18: Emerging budget issues in this round

1. Increased use of transport allowances in lieu of DSA to avoid the 30% Gavi ceiling on HR costs.

To comply with Gavi requirements about HR costs, DRC reduced significantly the payment of DSA in the new submission and replaced it with transport allowances, which are categorized as transport cost in the budget template. The result is an inflated transport cost accounting for 29% of the budget and a deflated HR cost accounting for only 13% of the budget. Nepal also extensively used transport allowances (US\$ 901K) as compensation in lieu of DSA for vaccinators and volunteers.

2. Overestimated staff requirements for campaigns

Staffing requirements are major cost drivers in campaigns budgets. Yet, most campaign applications provide little justification about the number, size, and composition of the planned immunisation teams. For example, the Uganda YF campaign will involve 126,185 people, including 48,210 vaccinators, 48,210 volunteers, and 24,105 social mobilizers. While the average workload of 120 vaccinations per vaccinator/day appears reasonable, the total number of vaccinators far exceeds the total number of nursing positions (13,164) available in the public service of the country.

Similarly, Malawi is planning for roughly the same number of vaccinators for the MR campaign (10,962) and for the TCV campaign (11,200) that are targeting respectively 3,153,736 and 9,361,309 people. Based on our calculations, the average daily workload per vaccinator is about 167 vaccinations/day in the TCV campaign and only 74 in the MR campaign with no justification, suggesting a major overestimation of staffing requirements for the MR campaign.

In Madagascar, the large size of vaccination teams (5 persons) was not fully justified by the PoA and tended to inflate staffing requirements. In Nepal, the number of planned vaccinators in the campaign

budget may have been over-estimated by 11% based on workload calculation, therefore contributing to budget inflation.

Recommendations: Gavi and partners to:

- ensure that information related to HR availability in the country is provided (SIA applications);
- ensure that applications include a description of how the country plans to mobilize the required HR for campaigns;
- ensure greater focus during Secretariat pre-screening on planned quantities and unit prices.

Governance

Issue 19. While the functionality of ICCs has much improved, efforts to strengthen the functionality of NITAGs appear to be lagging.

Of 8 applicant countries reviewed in plenary, 6 have applied for new vaccine support to expand their immunisation schedules, either with a new vaccine introduction (Madagascar, Malawi, Nepal, and Uganda) or with introduction of a second dose of MCV in the second year of life (DRC, Somalia). From the applications it is not always clear what processes were followed to enable informed decision making. Six countries (DRC, Gambia, Malawi, Nepal, Senegal, Uganda) have formally established NITAGs of which 3 have provided ToRs (Gambia, Malawi, Senegal). The composition and the range of skills and expertise, in particular among the core members, are not always clearly indicated. Only three countries (DRC, Malawi, Nepal) have provided meeting minutes as an indication of their functionality and involvement in decision-making process, while one NITAG (in Gambia) has not yet met since its inception. In contrast, all 8 countries have ICCs that actively meet, and all countries have submitted meeting minutes to prove it.

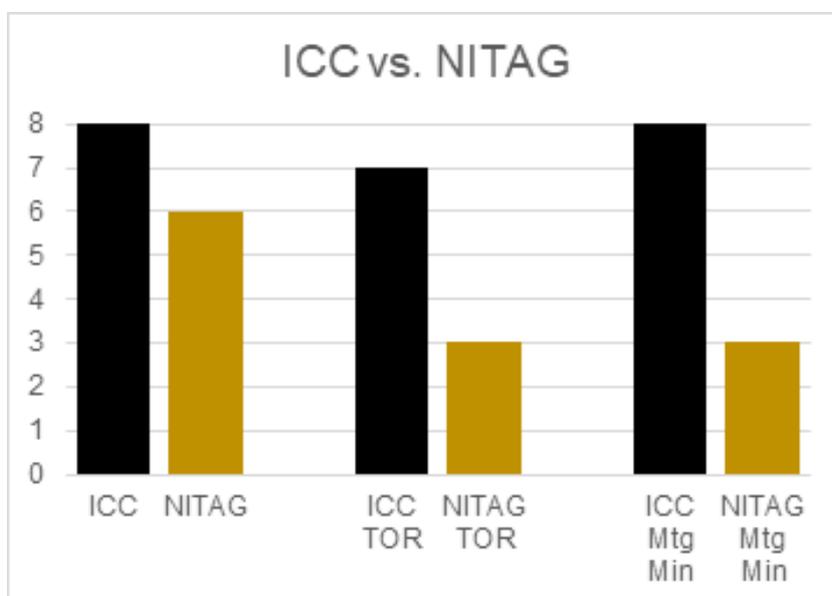


Figure 3: Comparison of NITAG and ICC presence and activity in 8 countries reviewed

ICCs are not equivalent to NITAGs and they are not meant to replace or substitute for them. The main purpose of ICC is to coordinate and support funding, planning and implementation, and their work is primarily operational, not technical. On the other hand, being independent of political or other influence, NITAG has a key role in advising on national immunisation policies and strategies and on needed adjustments to existing programmes and schedules, focusing on the epidemiologic, programmatic, and socio-economic context. NITAG supports national authorities in making evidence-based decisions as a neutral and independent forum, while technical experts and experienced

professionals add credibility to the immunisation programme and boost country ownership. This will become significantly important in the context of planning and deployment of COVID-19 vaccination.

Recommendation: Gavi and partners should:

- Continue to actively support establishment and/or strengthening of NITAGs as independent national technical resources to be consulted for all key immunisation policies and strategies.
- Support NITAGs to play a greater role in monitoring programme impact and advising on direction.
- Encourage countries to document the alignment of their applications with their NITAGs' recommendations.

Issue 20. Need for regular assessment of NITAG functions

Independent and functional NITAGs are recommended to be a part of this decision-making process. IRC has repeatedly urged Gavi and partners to facilitate and strengthen functionality of NITAGs in countries. However, JA reports do not show that NITAG functions are regularly assessed, and information that could help assess functionality is scarce.

Recommendation:

- Gavi should consider including an in-depth assessment and/or follow-up assessment of NITAG functionality based on WHO criteria through the annual JA mechanism and document the findings in JA reports. Countries should be encouraged to request technical assistance to evaluate and strengthen their NITAGs.

Technical assistance

Issue 21: Information on TA needs provided in PoAs is limited and does not clearly link to TCAs

Of the 8 countries reviewed in plenary, 7 (88%) (DRC, Gambia, Nepal, Senegal, Madagascar, Somalia and Uganda) included plans for targeted country assistance (TCA). Technical assistance included in these plans accounted for approximately US\$ 13 million, of which 74% was budgeted to WHO, UNICEF and CDC. Five (63%) countries included information on specific TA required to implement proposals submitted for funding, although in 4 of them (Madagascar, Senegal, Gambia and in one of two plans of action submitted by Malawi) only the general subject areas and proposed partners were mentioned, without reference to local challenges or prioritized programme implementation needs. In general, TA requested in plans of action (where available) did not clearly link to the TCA plans.

TCA plans are developed for a single year, and do not provide insight into how TA is coordinated or how it relates to overall longer-term plans for capacity building in countries. In addition, in both TCA plans and plans of action accompanying applications for funding, TA does not look beyond traditional partners to draw on local sources such as academia, who may offer innovations tailored to the local context. Targeted and high-quality TA which takes into account the local context will be particularly important in view of the recent disruption of immunisation programmes by COVID-19.

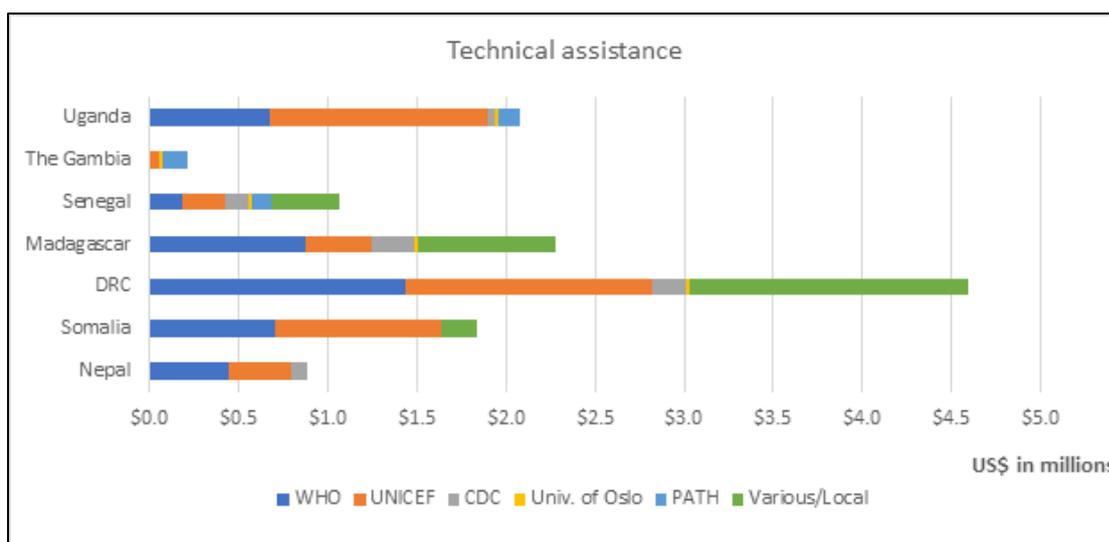


Figure 4: Distribution of funds (US\$ in millions) budgeted for technical assistance in 2020 TCA plans

TCA plans and TA needs, identified in PoAs included in applications, do not allow an integrated understanding of longer-term TA needs and plans for capacity building within the country. Furthermore, they do not adequately incorporate local organizations and academic institutions who would be able to provide solutions tailored to the local setting.

Recommendations:

- Gavi and partners to work with countries to develop longer-term capacity building and development plans based on identified needs and integrated with broader capacity building efforts within the country.
- TCA plans should go beyond the current year to understand priorities in the country context and relevance to project implementation needs, and should include support of local organizations and the local academic sector to develop local solutions in the context of sustainable capacity development.
- Gavi and partners to work with countries to ensure that TA requests, incorporated in plans of action submitted as part of country applications, clearly link to TCAs.

Review Processes

This is the third virtual IRC meeting in 2020, due to COVID-19 pandemic restrictions. Lessons learned from the previous two meetings allowed the November IRC to be better structured, leading to more active participation and engagement by members. This included:

- ensuring the IRC schedule included a weekend, to enable members to catch up on reports and thematic activities;
- adding another budget reviewer, to enable a more broadly shared workload among financial crosscutters;
- having editors consolidate issues and action points prior to plenary sessions, to enable more comprehensive and timely discussion;
- piloting of Microsoft Teams, to enable additional opportunities for virtual interaction.

While these processes have improved, most members agreed that in-person reviews were preferable as they reduced issues related to time-zone differences and encouraged greater interaction. This was particularly noted for thematic group work related to the IRC presentation and final report, as available hours for synchronous members' interaction were taken by plenary activities.

Best Practices

The IRC noted some best practices described by countries in key planning and implementation areas. These best practices could be shared with countries to inspire them to focus on improving these key areas.

- **Nepal and Malawi** were noted for the collection and use of research and other data for TCV, including good triangulation of several different types and sources of data
- **Gambia** limited printing costs for the campaign to only the missing RI vaccination cards needed.
- **Somalia**: in the absence of an AEFI surveillance system in the country and recognizing its importance, the country plans to train and appoint a designated spokesperson for interaction with the public and media.
- **Madagascar**: included in the budget a centralized worksheet for all assumptions (DSA, number of teams) and all calculation sheets refer to that (which facilitate simulations).
- **Uganda** was noted for its particularly transparent budget.
- **Malawi** included in the MR SIA plan of action a full section on the need to mitigate the impact of COVID-19 on routine immunisation.

Conclusions

Most issues noted during this review round were identified in previous IRC reviews and reports, and the IRC is pleased to note the continuing efforts by the Gavi Secretariat and Alliance Partners to address the issues raised and implement previous IRC recommendations.

The IRC noted important improvements in country applications submitted for review this round, but also unresolved issues. Key ongoing areas of weakness are limited use of coverage, equity and surveillance data for planning; insufficient strategies for reaching the unreached, particularly zero-dose children; limited efforts in identifying synergies and integrating activities; poor reporting on AEFI surveillance performance; weak monitoring and evaluation frameworks; insufficient attention to and support requested for waste management, and unclear TA needs and plans.

The IRC was pleased to see that one country, Senegal, applied for support for a selective and data-driven MR follow-up campaign, the first country to take advantage of Gavi SIA Operational Costs Flexibility. We hope that, inspired by this first experience, more countries will consider more creative and effective approaches to MCV campaigns than the traditional, non-selective, nationwide SIA. Additionally, the two countries that applied for TCV introduction in this round provided a solid evidence base for these applications through triangulation of strong epidemiological and antimicrobial resistance data. And while budgeting continues to be a major challenge, there is welcome evidence of improved quality in many budgets and better alignment of budgeted activities with plans of action. In addition, value for money remains a major concern in most budgets.

Despite being affected by the COVID-19 pandemic and related travel restrictions, the IRC, Gavi Secretariat and Alliance partners, and country governance and operational structures have shown a high level of resilience and adaptation, continuing to operate with minimal disruption and maintaining high standards of submitted applications. The IRC would like to recognize the high levels of commitment shown by all partners and commend Gavi for establishing the “Maintain, Restore and Strengthen Immunisation” workstream in response to COVID-19.

Acknowledgements

The IRC would like to express great thanks to the Gavi Executive Team, especially the CEO and Deputy CEO, for their continuous support to the IRC and responsiveness to key IRC recommendations. The IRC is also extremely grateful for the invaluable, dependable support by the FD&R Team. Lindsey, Verena, Sonia, and Anjana have made this review possible and provided continuous assistance and support through every stage of the process.

Our sincere thanks go to all SCMs, Focal Points, Finance Team Members for their timely and invaluable pre-review screenings and comments during plenary sessions, often providing country-level perspectives that are particularly useful during plenary discussions and final decision-making. We are also very grateful to the Gavi IT team for ensuring that this virtual IRC meeting could be successfully conducted, and their training and support to the MS Teams trial.

Finally, we wish to recognize the essential contribution of our key technical partners, UNICEF and WHO. Their support to countries in the preparation of the applications, and their valuable contributions to the IRC reviews with timely contributions and clarifications on global policies and strategic issues, are always greatly appreciated.

Annex 1: List of IRC Members

Name	Nationality	Profession	Gender	Review languages	Relevant expertise
Caric, Aleksandra	Croatia	Independent consultant	F	EN, FR	Measles, AEFI surveillance and vaccine safety, programme management
Cairns, Lisa°	Canada, USA	Independent consultant	F	EN, FR	Immunisation policy, epidemiology, M&R control, national immunisation programme reviews
Crump, John A.*	New Zealand	Professor, University of Otago	M	EN	Typhoid fever epidemiology
Gordon, Melita A*	UK	Professor, University of Liverpool & Malawi	F	EN	Gastroenterology, disease surveillance, typhoid, vaccine trials
Howard, Natasha	Canada, UK	Associate Professor, National University of Singapore and London School of Hygiene and Tropical Medicine.	F	EN, FR	Fragility, Emergencies, Refugees, HSS, HPV.
Jaillard, Philippe	France	Independent consultant	M	EN, FR	Supply chain and logistics
Kaucley, Landry	Benin	Director of Logistics, National Agency for Vaccination and Primary Health Care, Benin	M	EN, FR	Supply chain and logistics
Msampha, Kondwani *	Malawi	Deputy Global Director, Corporate Services at the World Scout Bureau	M	EN	Financial & budget analysis and management
Khrouf, Wassim	Tunisia	Certified Accountant/ Independent Consultant	M	EN, FR	Budgeting, Financial Audit, Accounting, Management and International Donors' Grants, Governance
Lazzari, Stefano <i>INTERIM CHAIR</i>	Italy	Independent Consultant	M	EN, FR	Outbreak, epidemic and emergency response, HSS, monitoring and evaluation, grant management
Lyimo, Dafrossa <i>VICE-CHAIR</i>	Tanzania	EPI Manager	F	EN	Program Management, HSS, RI, Surveillance, M&E
Nkowane, Benjamin	Zambia	Independent Consultant	M	EN	Measles, epidemiology, mass vaccination campaigns, technical support for field operations in risk areas
Tibouti, Abdel	Morocco, Canada	Independent Consultant	M	EN, FR	Financial and Budget Analysis, Health Economics, Health Financing Strategies, Program planning, M&E
Tsu, Vivien	USA	Clinical Professor, University of Washington, Seattle	F	EN, FR	Epidemiology, New Public Health Interventions, Women's Reproductive Health, HPV, JE
Wilkins, Karen	USA	Independent Consultant	F	EN, FR	Routine immunisation, measles, polio, surveillance, planning & evaluation

* New member