Evaluation of the Immunization Practices Advisory Committee (IPAC)

FINAL REPORT

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Key acronyms

AMP	Agence de Medecine Preventive
BMGF	Bill and Melinda Gates Foundation
CDC	Centers for Disease Control and Prevention (USA)
CTC	Controlled temperature chain
DOV	Decade of Vaccines
DCVMN	Developing Country Vaccine Manufacturers Network
ECBS	Expert Committee for Biological Standardization
EMP	Essential Medicines and Health Products
EPI	Expanded Programme on Immunization
GACVS	Global Advisory Committee on Vaccine Safety
GAVI	GAVI Alliance (formerly the Global Alliance for Vaccines & Immunization)
GIVS	Global Immunization Vision and Strategy
gPPP	Generic Preferred Product Profile
GVAP	Global Vaccine Action Plan
HepB	Hepatitis B vaccine
IFPMA	International Federation of Pharmaceutical Manufacturers & Associations
IVB	Immunization, Vaccines and Biologicals
IPAC	Immunization Practices Advisory Committee
IVIR-AC	Immunization and Vaccines related Implementation Research Advisory Committee
JSI	John Snow, Inc.
MCHIP	Maternal and Child Health Integrated Program
MDG(s)	Millennium Development Goal(s)
MDVP	Multi-Dose Vial Policy
MNCH	Maternal, Newborn, and Child Health
MoH	Ministry of Health
NGO	Non-governmental Organization
NITAG	National Immunization Technical Advisory Group
NOM	New Operating Modality
PAHO	Pan American Health Organization
PATH	(Formerly Program for Appropriate Technology in Health)
PSPQ	Programmatic Suitability of Prequalified Vaccines – [Standing Committee]
SAGE	Strategic Advisory Group of Experts on immunization
TAG	Technical Advisory Working Group
TechNet	TechNet-21.org website [TechNet Forum]
TLAC	Technical and Logistics Advisory Committee
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VPPAG	Vaccine Presentation and Packaging Advisory Group
WHO	World Health Organization

1. Executive Summary

Introduction

BigThink Partners was engaged to conduct a comprehensive evaluation of the Immunization Practices Advisory Committee (IPAC), using methods designed to answer the key question "*Is IPAC positioned to achieve its intended outcomes and contribute optimally to global immunization practices?*"

The evaluation found that IPAC's advice to WHO and contributions to immunizations operational practices are widely viewed as successes. IPAC is seen as having met its mandate on most measures and is viewed positively in terms of operational efficiency, effectiveness, and in providing useful, quality advice. In addition, it is clearly a time of significant change for IPAC as it transitions to news ways of functioning. In this context, the evaluation recommendations focus on incremental changes to optimize IPAC's contribution to WHO the immunization community, and to improve the Committee's structure and operations.

Background

IPAC was established in 2010 by the World Health Organization (WHO) in order to provide WHO with independent, high quality, evidence- and experience-based advice and recommendations to strengthen and improve the delivery of immunization programmes at the country level and to realize the goals of the Global Immunization Vision and Strategies (GIVS) and the Global Vaccine Action Plan (GVAP).

In 2014, with renewed funding through a grant from the Bill & Melinda Gates Foundation (BMGF), IPAC shifted to a New Operating Modality (NOM), though its mandate remained unchanged. As part of its transition to the NOM, it was considered timely that IPAC's mandate, structure and processes be re-examined and evaluated to ensure continued relevance and utility. The evaluation reflected in this report examined IPAC's mandate, structure, evolution and fitness for purpose to make recommendations that will serve to optimize IPAC's current and future value to WHO and the global immunization community.

Methods

The evaluation consisted of a comprehensive desk review of online and other available information on IPAC, its work and outcomes, and related immunization initiatives, strategies, organizations and committees. An online survey was conducted among IPAC current and former Members, WHO Staff at Headquarters and Regional Office levels, observers and other

partners. Of the 85 people[1] invited to respond, 42 completed the survey (about 49% response rate). In addition, interviews were conducted targeting the same respondent group (N=85). Forty-four (44) people (about 52%) responded to the request for interviews.

Conclusions

Based on the desk review, survey and interview results, and analysis of this information in the context of WHO's needs and IPAC's organizational relationships, this evaluation concludes the following:

- IPAC's advice to WHO and contributions to immunization operational practices are widely viewed as successes.
- While IPAC's mandate may be well understood, its purpose, role and achievements related to other immunization groups are not sufficiently clear and not effectively communicated; IPAC lacks a recognized "voice" in the immunization community.
- IPAC lacks internal cohesiveness (amongst its Members), which seems to be related to internal communication problems.
- WHO has disparate views across a variety of IPAC issues, including its role, impact and value.
- There is perceived lack of strategic insight amongst IPAC Members about IPAC future directions.
- Across IPAC, WHO, Observer and Partner respondent groups, IPAC is viewed as lacking country-level impact, regional and country expertise or lacking regional- and country-level inputs. It should be noted that these expressed concerns and expectations do not reflect IPAC's primary mandate, which is directed towards global-level issues and does not involve demonstrating country-level impact.
- There is a need for specific IPAC performance benchmarks; IPAC work and the NOM should be evaluated within the next two years.
- The New Operating Modality appears to be innovative and could be a model for other WHO advisory committees. The NOM's intended features—fewer formal meetings, greater economy in a financial and WHO Staff resource-constrained environment, use of new communication technologies, more flexibility and responsiveness to WHO needs and tasking of Members to other groups—are creative and resourceful and could be a model for other similar WHO advisory groups.

Recommendations

The evaluation recommendations are focused on optimizing and strengthening the newly introduced operational and structural approach for IPAC, known as the New Operating Modality. This focus is based on several realities: the New Operating Modality is indeed new

[1] See Table 4.1 for a detailed breakdown (by (respondent category) of those invited to participate.

and has not been fully operationalized, yet; new resource constraints require that IPAC operate with less frequent meetings and make use of more efficient communication modalities, including the TechNet Forum; and there is a demonstrated need for IPAC expertise to "permeate" various aspects of its immunization work and for IPAC to be more responsive and flexible, which has led to WHO tasking IPAC Members to various other immunization-related expert committees and workgroups.

In this context, and to maximize IPAC's value to WHO and the immunization community in the area of immunization practices, the authors recommend that there is a need to transition IPAC's operational structure to one that (1) is more formalized and with a higher profile and clarity of purpose within WHO and with SAGE, other WHO-sponsored groups, and other immunization partners; (2) is more agile and responsive to current WHO needs; (3) is less resource-intensive and more virtual, taking maximum advantage of available technologies; and (4) has strengthened regional and country-level immunizations practices expertise and support.

The authors specifically recommend the following:

1. **Maximize IPAC's value and outcomes:** WHO should take steps to strengthen documentation and communication on outcomes of IPAC work/recommendations, especially successes, and establish future planning for documentation and communication. This should be done internally with WHO leadership, amongst IPAC Members, external partners and the broader immunization community. WHO may consider developing a "History of IPAC" report.
2. **Strategic plan**: With the collaboration of the IPAC Chair and Members, WHO should lead development of a 2-year IPAC strategic plan that details, for example, the Committee's objectives, meeting plan, provisional agendas and workplan. The plan should provide for mechanisms to allow flexibility and responsiveness to changing WHO needs.
3. **Clarify and better communicate IPAC's purpose, role, organizational relationships and achievements:** WHO should clarify, document, and make senior-level statements on IPAC's purpose, organizational relationships, lines of communication, with for example, SAGE, VPPAG, PSPQ, and IVIR-AC.
4. **Improve and support tasking/assignments of IPAC Members to external workgroups:** WHO should take steps to improve support to IPAC Members tasked to SAGE workgroups, VPPAG, PSPQ, IVIR-AC, or others.
5. **Better orient and recruit new IPAC Members:** A support system should be developed for new IPAC Members. For example: develop a more formal orientation package and process; formally or informally assign mentors to new Members; and for those new Members whom WHO may find it appropriate, engage immunization Staff from the new

Member's associated WHO Regional Office or WHO Country Office to provide orientation and other support during the member's tenure or provide liaison between WHO and the IPAC member. IPAC should broaden and regionalize its Membership to include more country-level field and implementation expertise.

6. **Bolster IPAC internal communication:** There should be strengthened training and promotion of the TechNet Forum for IPAC communications and perhaps more intensive training for less technologically proficient Members.
7. **Identify performance benchmarks and evaluate IPAC in two years:** IPAC outcomes and performance should be assessed. Benchmarks should be identified and based on both WHO's needs for expert advice on immunization practices and established measures for the performance of IPAC.

2. Background

The Immunization Practices Advisory Committee (IPAC) was established in 2010 by the World Health Organization (WHO) in order to support and advise the Director of the Department of Immunization, Vaccines and Biologicals (IVB), now within the WHO Family, Women's and Children's Health Cluster. It is coordinated by an IPAC Secretariat based at WHO-Headquarters in Geneva, Switzerland. Ongoing objectives for IPAC include ensuring that programmatic guidance is appropriately channeled into thematic areas across existing streams of work: Innovation and Strategy, Operations, and Tools and Technologies.

IPAC, currently comprised of approximately nine Members and five observers, is tasked with providing WHO with independent, high quality, evidence- and experience-based advice and recommendations to strengthen and improve the delivery of immunization programmes at the country level and to realize the goals of the Global Immunization Vision and Strategies (GIVS) and the Global Vaccine Action Plan (GVAP). IPAC focuses on best practices and current evidence that relate to the implementation of immunization programmes, including their integration within the broader health system. According to the terms of reference, IPAC advice should be evidence- and experience-based, transparent, and reliable with explicit rationale, as well as free of conflicts of interest. IPAC has no executive or regulatory function.

In 2014, with renewed funding through a grant from the Bill & Melinda Gates Foundation (BMGF), IPAC shifted to a New Operating Modality, though its mandate remained unchanged. As part of its transition to the New Operating Modality, it was considered timely that IPAC's mandate, structure and processes be re-examined and evaluated to ensure continued relevance and utility. In particular, there was a need to examine IPAC's mandate, structure, evolution and fitness for purpose to make recommendations that will serve to optimize IPAC's current and future value to WHO and the global immunization community.

3. Methods

BigThink Partners was engaged to conduct a comprehensive evaluation of IPAC, which included a desk review, an online survey, and interviews of IPAC current and former Members and Observers, WHO Staff, IPAC Secretariat and various other stakeholders. The online survey and interviews were designed to answer the key research question: "*Is IPAC positioned to achieve its intended outcomes and contribute optimally to global immunization practices?"* Detailed information was collected about each participant's engagement with IPAC, their opinions on IPAC's structure and operations, the role that they think IPAC should play in the international

immunization community, and their recommendation on what can or needs to change to strengthen IPAC's work.

3.1 Desk Review

BigThink Partners conducted a comprehensive desk review of available online information and other materials provided by WHO or interviewees:

a. TLAC historical records;
b. IPAC historical records, structure, meeting reports, publicly disseminated recommendations, related WHO guidelines and other outcomes, available at the WHO IPAC webpage: http://www.who.int/immunization/programmes_systems/policies_strategies/ipac/en/;
c. Related WHO structures, other organization such as the GAVI Alliance Online and other information on IPAC observers, BMGF, other partners and industry groups DCVMN and IFPMA;
d. Related global immunization strategies and plans such as GVAP and GIVS; and
e. Online and other information on other immunization-related advisory committees and similar initiatives of relevance to IPAC's mandate, including SAGE, ECBS, IVIR-AC, NITAG, PSPQ- SC, and VPPAG.

In addition, BigThink Partners mapped IPAC's relationships with WHO and related committees and organizations.

A selection of reviewed documents is found in Annex A: Key Resources.

3.2 Online survey

3.2.1 Approach and data analysis

A survey was designed to answer the following question "*Is IPAC positioned to achieve its intended outcomes and contribute optimally to global immunization practices?"* Survey questions were designed to measure the participants' views about IPAC's mandate, structure, evolution, fitness and future direction. The survey consisted of 62 quantitative and qualitative questions. Questions related to IPAC's mandate, structure and fitness were designed as quantitative questions while open-ended questions were included to solicit qualitative responses related to IPAC's evolution and the future direction. Quantitative questions included multiple choice, dichotomous (yes/no) and Likert scale type questions.

An electronic version of the survey was created using Polldaddy Polls software and the online survey link was sent by email to approximately 85 individuals who were identified by the IPAC Secretariat. The list included IPAC's current and former Members, current and former

observers, partners, and WHO and Secretariat Staff. Reminder emails were sent throughout the survey-open period.

The estimated time to complete the online survey was 20-30 minutes and the online survey remained open for three weeks (June 2015). To improve the response rate, the survey was re-opened for an additional two weeks (August 2015). An email was sent to the participants who had not previously completed the survey, with three follow-up reminders sent via email. Surveys were collected anonymously and the collected data did not include any identifiers.

A total of 42 people completed the survey (49% response rate). The distribution of responses by respondent category is shown in Table 3.1. This Table also reflects the interview distribution by respondent category.

Table 3.1 Survey and interview distribution by respondent category

Respondent category	Number of responses	Total number invited	Response rate
Current IPAC Member	12	12	100%
Former IPAC Member	2	6	33%
Current IPAC Observer	1	4	25%
Former IPAC Observer	2	6	33%
IPAC Secretariat	1	1	100%
WHO Staff (HQ and RO)	13	30	43%
Partner Staff	6	19	32%
Industry Representative	5	7	71%

Respondent categories were collapsed to increase the robustness of analyses. The distribution of responses by collapsed respondent categories is shown in Table 3.2.

Table 3.2 Survey distribution by merged respondent category

Respondent category	Number of responses
Member (*current and former*)	14
Staff (*Secretariat, WHO/HQ and RO*)	14
Other (*observers, partners, industry representatives*)	14

3.2.2 Advantages and limitations to online survey methodology

An online survey was chosen as an expeditious way to secure as high a response rate as possible, given the compressed timeline of the evaluation. Online tools have many advantages, especially when the total number of respondents is anticipated to be 100 or more. These advantages include the ability to administer the survey in a timely manner, to a large number of respondents, across a wide geographic region; easy administration of complex surveys via an online format; flexibility in design allowing use of different styles of questions with ease; and

minimizing data entry errors, as online answers are automatically collected and stored in a survey database.

Online surveys are not without limitations, which include the inability to follow-up or investigate further on open-ended questions, limitations on participation from those who have poor-to-no Internet access, individual dislike or discomfort with survey modality, and the inability to know whether the responses are solely from the invited individual or from multiple sources, e.g. the individual responding to the survey assisted by, or with inputs from, other people.

3.3 Interviews

3.3.1 Approach and data analysis

An interview protocol was developed to contribute further to the research question, "*Is IPAC positioned to achieve its intended outcomes and contribute optimally to global immunization practices?*" The questions were designed to explore participant views about IPAC's structure/function, successes, challenges, current and future contributions, and future recommendations. Interviews were conducted in person and on the telephone/via Skype and lasted an average of 30 minutes.

Approximately 85 people were invited by email to participate in the interview process. Three follow-up email requests were sent and interviews were conducted in-person or by phone/Skype over a four week period (June – July 2015). To improve the participation rate, a second interview period was opened for a further three weeks (August – September 2015). Email invitations were sent by WHO to all who had not participated in the first round of interviews and three follow-up emails were sent by WHO and BTP. Additionally, personal email requests for interviews were sent by BTP to 16 first and second priority level individuals who had not responded previously.

A total of 44 interviews were conducted by phone or in-person (52% response rate). The distribution of interviews by respondent category is reflected in Table 3.1 (above) and by merged respondent category shown in Table 3.3.

Table 3.3 Interview distribution by merged respondent category

Respondent category	Number of interviews
Member (*current and former*)	14
Staff (*Secretariat, WHO/HQ and RO*)	16
Other (*observers, partners, industry representatives*)	14

3.3.2 Advantages and limitations to interview methodology

Interview methodology was chosen as a critical evaluation technique for this evaluation to collect specific, probing, and "information-rich" data. Interviews are a flexible tool for exploring participant awareness, understanding, experiences, challenges, and suggestions related to particular subjects and processes. They are particularly useful for generating an in-depth understanding of issues, since a skilled interviewer can follow up or probe certain tangents or views that were unanticipated in the design of the interview protocol, often yielding new information or additional nuances of existing information. Despite its many advantages, interview methodology is not without limitations. Findings from interviews are not quantitative, nor can they be generalized as a whole, and individuals may have a dislike or discomfort with interview modality.

4. Findings

4.1 Introduction

The findings reflect information gathered from the following components of the scope of work:

- Desk review of IPAC meeting structure, agendas and outcomes to date, and other IPAC information available online and provided by WHO;
- Mapping of other advisory committees and similar initiatives of relevance to IPAC's mandate, with document review of their current and proposed functions;
- Conduct of an online survey; and
- Conduct of individual interviews.

4.2 IPAC history and mandate

IPAC was created in 2010 to support and advise the WHO Immunization, Vaccinations and Biologicals (IVB) Director and to aid in the successful implementation of the Global Vaccine Action Plan (GVAP 2011-2020) to reduce child mortality, improve maternal health and combat disease.[2]

IPAC has been funded by a grant from the Bill and Melinda Gates Foundation (BMGF) since its inception in 2010. IPAC replaced a previous similar entity, the Technical and Logistics Advisory Committee (TLAC) that was created in 2008 and was supported by the BMGF. TLAC's original purpose was to advise the WHO IVB Director on gaps and constraints, recommend strategies and policies, review innovations and research in technology and systems, and provide recommendations for the Expanded Programme on Immunization (EPI). In 2009, WHO decided

[2] GVAP was endorsed by the 194 Member States of the World Health Assembly in May 2012 and was the product of the DoV Collaboration that brought together development, health and immunization experts and stakeholders. GVAP set six key immunization targets with deadlines at the end of 2014 or 2015.

to discontinue TLAC in order to restructure the committee to focus more on programmatic issues and less on regulatory considerations. This transition from TLAC to IPAC also had the intention to convert the committee into an advisory group on immunization practices and strategies to strengthen routine immunization. IPAC expanded upon TLAC's role to focus on practical and operational aspects aimed at helping to achieve GVAP and GIVS.

Current IPAC funding is part of a larger grant that covers a broad range of WHO IVB technical and operational costs. The current total grant is for $4 million USD over 3 years (2014-2017), of which IPAC's operational costs are included amongst other WHO IVB programs.

IPAC supports the WHO IVB Director by reviewing, formulating, and/or endorsing immunization operational standards, technology, tools, and practices necessary to achieve and sustain high-level immunization coverage at district and national levels (as outlined in GVAP). It also aims to ensure that immunization services are of high quality.

Specifically, IPAC's role is to provide advice and recommendations to the WHO IVB Director on three areas:

Innovation and Strategy:

- Operationalizing policy recommendations made by SAGE and other WHO advisory committees into recommended practices to enable their effective implementation in countries;
- Developing and reviewing immunization delivery strategies, including strategies for integration and strengthening of immunization programmes within the broader health systems context;
- Identifying opportunities for integration of new vaccine delivery with other disease control interventions;
- Monitoring and evaluating strategies, including through data collection, analysis and use.

Operations:

- Managing immunization programmes, including planning, monitoring and supervising;
- Planning for the introduction of new or revised immunization schedules;
- Managing human resources, including through capacity building and training;
- Managing vaccine supply system operations, including those related to cold chain, equipment and transport;
- Developing information systems for improved immunization delivery, logistics etc.
- Ensuring financial sustainability, including through identification of measures to increase

cost-effectiveness.

Tools and technologies:

- Identifying and implementing innovative technologies, tools and systems to strengthen immunization programmes;
- In collaboration with other advisory bodies, improving vaccine packaging and presentation in relation to the programmatic suitability of vaccines for use in the public sector;
- Reviewing vaccine supply system assessment tools;
- Designing tools to support immunization planning, financing, monitoring and evaluation.

Recent WHO IVB Director guidance to IPAC Members advised that approximately 80% of IPAC recommendations should deal with operational matters and these recommendations are made to the WHO IVB Director directly, while the additional 20% of IPAC's work deals with strategic matters and requires further discussion and endorsement from the Strategic Group of Experts (SAGE) before consideration and adoption by the WHO IVB Director. As part of IPAC's work, they may also request, or be requested to, provide updates, recommendations, and other relevant information to/from SAGE, the Expert Committee for Biological Standardization (ECBS), the Vaccine Presentation and Packaging Advisory Group (VPPAG), and other agencies, organizations, or groups. These groups are discussed in Section 5.3.4.

As stated in its terms of reference, IPAC has no executive, regulatory or decision-making function, but rather serves to advise the WHO IVB Director and make independent recommendations.

4.3 IPAC Structure

4.3.1 Leadership and Membership

IPAC has consisted of 12 Members who serve in their personal capacity—they do not represent their organizations—and provide a broad range of expertise pertinent to immunization programs, including logistical, operational, and programmatic knowledge. As of early October 2015, the total number of Members increased to 15. All Members are appointed by the WHO IVB Director and must be recognized experts in the field of immunization. Others are engaged in the vetting process, including a panel of senior managers from the WHO IVB/EPI Division and the chair of IPAC. Selection occurs through a process based on a scoring system. Individuals are informed of openings through a public call for nominations and may be nominated or self-apply.

All IPAC Members are appointed to a 3-year term, with possibility to renew for one additional

term of either 2 or 3 years, depending on the numbers shortly rotating off. During the inaugural nomination process, Members were appointed for one, two, or three-year terms in order to stagger the length of service and assure that not all group Members rotate out at the same time. This policy was enacted to ensure continuity.

The WHO IVB Director appoints the chair of IPAC for a term of two years, which may be renewed once. Eligibility for the position of chair is contingent upon having served on IPAC for at least one year (with the exception of the inaugural chair). The main responsibilities of the chair are the following:

- Chair all IPAC meetings and online forum discussions;
- Plan, together with the WHO focal point, the modalities of each agenda item prior to each meeting and coordinate the final recommendation session in each meeting;
- Interact with the WHO Secretariat regularly with regard to the setting of IPAC meeting agendas and general Committee operations;
- Represent IPAC at the six-monthly SAGE meetings and provide regular updates to SAGE on the issues IPAC addresses; and
- Attend other WHO meetings as appropriate.

In addition to the Members, IPAC also includes five permanent observer Members. These observer Members are representatives of the following partner organizations: the U.S. Centers for Disease Control and Prevention (US-CDC), the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA), the Developing Countries Vaccine Manufacturers Network (DCVMN), PATH, and the United Nations Children's Fund (UNICEF). The observer Members are invited to all IPAC meetings and are included in all closed sessions, barring any that pose a conflict of interest. Observers are non-voting Members as Staff working in or representing these organizations. Observer Members do not have IPAC-imposed term limits, and the individuals holding these posts are replaced at the discretion of the partner organizations.

IPAC sub-groups and working groups are established as needed. Smaller, more time-limited sub-groups may be formed to oversee a distinct part of a task group's review. Sub-groups consist of IPAC Members and, unlike working groups, do not include relevant topic experts. Working groups (also referred to as sub-task groups) are established according to need and consist of a WHO technical lead, one to two IPAC Members who represent IPAC in the task groups, and other experts. IPAC Members also participate in various workgroups external to IPAC, such as SAGE workgroups. These time-limited groups are formed to assess and review specific topics pertaining to the work of the IVB department, and consist of six to ten Members from various organizations. While IPAC Members can utilize this opportunity to put forward

IPAC-sourced feedback and perspectives, they nevertheless serve on these working groups in their individual capacity as subject experts and are not under an obligation to represent IPAC.

4.3.2 Secretariat

The WHO IVB Director assigns WHO Staff to form the IPAC Secretariat. The main role of the Secretariat is to provide administrative and technical support to IPAC to ensure that IPAC's terms of reference are met and that all processes pertaining to IPAC's work run smoothly. The main tasks of the Secretariat were outlined in IPAC's terms of reference 2013:

- Preparing and developing the agenda topics to allow for data supported and considered recommendations;
- Planning IPAC meetings: including agenda formulation, travel and accommodation for Members and non-Members, and the invitation of topic experts to specific meetings;
- Assisting in the formulation and functioning of the working groups;
- Assisting with preparing the meeting minutes and reports;
- Providing IPAC Members with the background/support materials, trainings (as appropriate);
- Maintaining an IPAC website for sharing IPAC meeting reports, agenda and key recommendations with the broader immunization community;
- Linking IPAC Members to the WHO Staff in HQ, regions and country offices and partners, as appropriate;
- Facilitating the dissemination and use of recommendations made by IPAC and approved by the Director; and
- Commissioning further studies, operational research if recommended by IPAC and approved by the WHO IVB Director.

The Secretariat is currently comprised of three Members: Anna-Lea Kahn, Diana Chang-Blanc, and Giselle Richardson, who all work within the WHO IVB Department.

4.3.3 New Operating Modality

A new BMGF grant cycle started in 2014. WHO leadership took the opportunity to adopt a new working and support structure to accomplish the work of IPAC, referred to as the "New Operating Modality." As stated by WHO leadership, prior to the New Operating Modality, it was recognized that engagement among Members was inefficient: "Engagement tended to be limited to the in-person meetings and did not continue year-round, resulting in insufficient time during the meetings to complete discussions." The previous modality did not allow for feedback and discussion to take place when it was needed most, which often were times of the year that did not correspond with the June and October timing of the meetings.

The New Operating Modality "was created to make IPAC's work more fluid and continuous and to allow the group to be able to address issues as they arise rather than waiting for the formal meetings. This New Operating Modality is driven by a desire to increase engagement among Members, to improve the ability of the group to attend to issues as they emerge, and to be better able to call on Members when they are needed." Specific features of this New Operating Modality include the following:

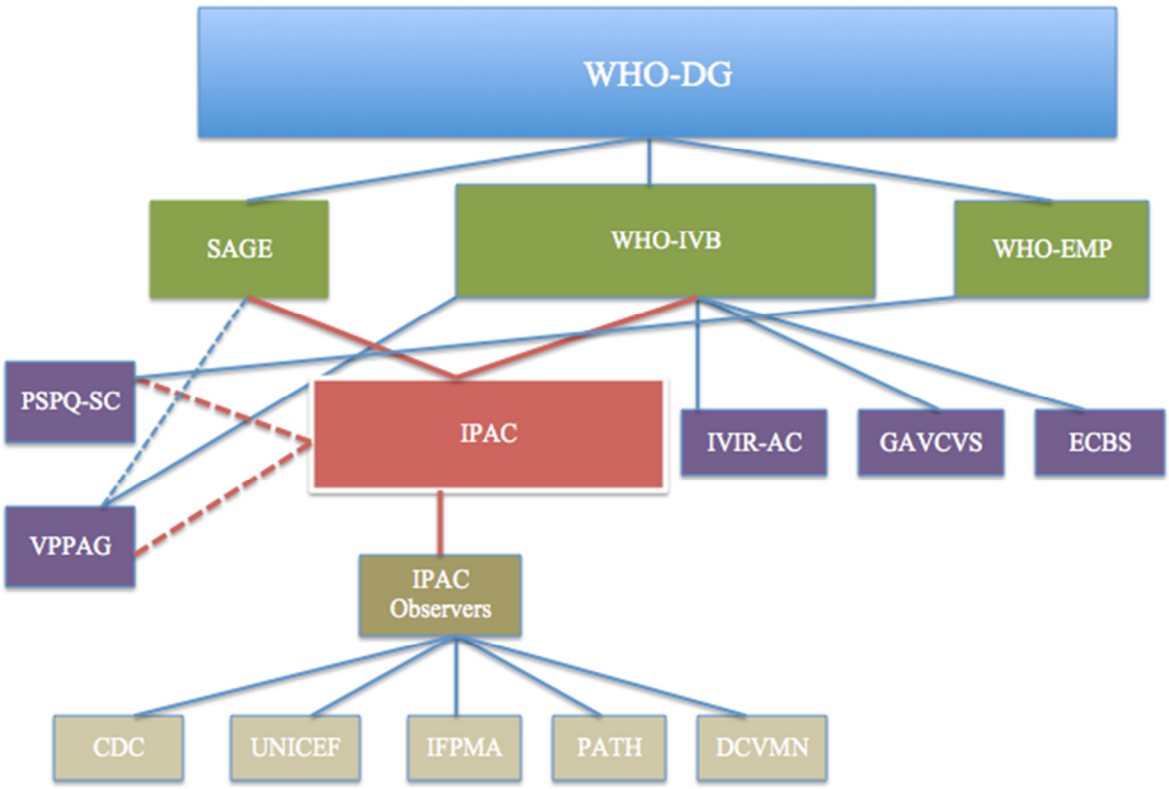
- **Meetings every 12-18 months**. IPAC's in-person meeting schedule changed from every six months to every 12-18 months. As before, meetings are conducted in English, and are open to all interested parties, with the exception of closed meetings sessions for discussion of confidential agenda items. The next scheduled IPAC meeting is set for 14-15 October 2015.
- **Use of TechNet Forum**. The TechNet Forum, a component of TechNet-21.org, is an online forum for sharing information and recommendations, and is also a collaborative online discussion platform for immunization professionals from around the world to share best practices and discuss opinions. The intended primary mode of communication between IPAC Members is a private TechNet group, where group Members can share resources and have forum discussions online. IPAC also uses this forum to post recommendations and to seek nominations for new committee Members.
- **Quarterly Bulletin**. A new IPAC Quarterly Bulletin is distributed to all IPAC Members and observer Members, to communicate important information and topics outside of the meetings and teleconferences. Development is coordinated by the Secretariat.
- **Working group tasking**. WHO IVB tasks IPAC Members to SAGE working groups and various other committees and working groups in an effort to include IPAC's field experience, and program and operational expertise in these groups.
- **Secretariat functions**. The functions of the IPAC Secretariat changed with the New Operating Modality and in addition to providing support they now include administering the TechNet private group and coordinating the development of the Quarterly Bulletin.

4.3.4 IPAC relationship to SAGE and other groups

IPAC relates to other expert committees and groups in a complex web of interactions. IPAC's principal relationships are with WHO IVB as its advisory committee and to the Strategic Advisory Group of Experts (SAGE) by informing it on immunization practices issues (Figure 4.1). Currently there are two internal "standing" groups that are technically hosted within IPAC, the Programmatic Suitability of Vaccines for Pre-Qualification Standing Committee (PSPQ SC) and the Vaccine Presentation and Packaging Advisory Group (VPPAG). However, is not necessarily

well understood by WHO, IPAC or Members of these committees that they are part of the IPAC structure, as suggested by the dotted lines in Figure 4.1.

Figure 4.1 IPAC Organizational Relationships



- **SAGE** is the principal advisory group to the WHO Director-General on global immunization policies and strategies. SAGE is comprised of 15 experts from around the world who are nominated by the WHO IVB Director and appointed by the WHO Director-General. In the past, IPAC regularly reviewed outcomes from SAGE's meetings and recommendations. IPAC recommendations that deal with strategic matters require further discussion and endorsement by SAGE before consideration and adoption by the WHO IVB Director.
- **PSPQ SC** is an independent advisory committee with five Members, two of which are Members of IPAC, with experience in immunization programming and policy. The main role of the PSPQ SC is to review PSPQ Secretariat (WHO) -referred exceptions to the programmatic suitability of prequalified vaccines process and provide recommendations to WHO. Initially PSPQ SC advised and was tasked by the WHO IVB Director. However, as a result of reorganization within WHO, PSPQ SC now advises and is tasked by the WHO Department of Essential Medicines and Health Products (EMP) within the WHO Health Systems and Innovation (HIS) Cluster.

- **VPPAG** was originally established by GAVI in 2007, three years before IPAC's establishment, in response to a query from industry about the optimal number of doses per vial for vaccines used in GAVI-eligible countries (low- and lower-middle-income countries). At the time, there were concerns about the available presentations of the rotavirus and pneumococcal conjugate vaccines that GAVI was planning to support and the VPPAG was asked to provide input and guidance on the presentation and packaging of both vaccines. The group's three core functions are to: provide a forum for dialogue between industry and the public sector on vaccine presentation and packaging and respond to industry requests for guidance; facilitate improvements in the presentation and packaging of vaccine products destined for developing country markets through specific preferred product profiles, and develop generic guidance on optimal packaging and presentation for vaccines used in resource-constrained environments." In 2008, WHO took over the role of convening the group and in 2010 with the establishment of IPAC, VPPAG became a standing committee of IPAC tasked to look into specific issues that pertain to IPAC's policy recommendations on vaccine products. Both WHO and UNICEF provide administrative and financial support to VPPAG. VPPAG's more broad purpose now is to facilitate improvements in vaccine presentation, packaging, and delivery devices through the development of preferred product profiles and to respond to requested guidance on specific products issues from industry, vaccine development groups, IPAC, and other relevant agencies. As the key platform for discussion between the vaccine industry and public sector, IPAC uses VPPAG as a forum through which to seek feedback from the vaccine industry on specific topics. The chair of VPPAG is invited to all IPAC meetings as a non-voting observer. Although formally described as a working group of IPAC, VPPAG precedes IPAC and functions without IPAC oversight.
- **Immunization and Vaccines Related Implementation Research Advisory Committee (IVIR-AC)** advises the WHO IVB Director on the following five areas: (1) matters related to implementation research and their relevance to immunization policies and practices, (2) priority and agenda setting of implementation in research in immunization, including reviewing proposed methodologies, (3) reviewing and advising/guiding researchers and/or research groups in implementation research, (4) reviewing best practices related to quantitative immunization and vaccine-related research, and (5) designating and participating in subcommittees or expert working groups to guide the work of IVIR-AC. IVIR-AC and IPAC have an in-principle agreement to send invitations to each other's meetings, but it is not known if this occurred in 2015.
- **Global Advisory Committee on Vaccine Safety (GACVS)** was established in 1999 to enable WHO to respond promptly, efficiently, and with scientific rigor to vaccine safety issues. It is composed of 12-15 Members with expertise in relevant fields. It was agreed in 2010 that periodically published safety reports for vaccine products would be sent to

IPAC and that GACVS would regularly inform IPAC about programmatic issues related to vaccine safety. IPAC may also request consultations with, or be consulted by, GACVS.

- **Expert Committee on Biological Standardization (ECBS)** was established in 1947 to provide detailed guidelines and recommendations pertaining to the manufacturing, licensing, and control of vaccines, blood products, and biotechnology products. IPAC may request consultations with or be consulted by ECBS.

4.4 Online Survey Findings

An online survey was developed to answer the following question: "*Is IPAC positioned to achieve its intended outcomes and contribute optimally to global immunization practices?"* The survey questions were designed to measure the participants' views about IPAC's mandate, structure, evolution, fitness and future direction. A total of 42 people completed the survey (49% response rate), with even distribution across compressed respondent categories.[3] Quantitative and qualitative findings from the online survey are presented below.

4.4.1 Mandate

Survey participants were asked a series of questions to evaluate perceptions about IPAC's mandate in the areas of (1) clarity of the mandate; (2) advice/recommendations; (3) strategic advice/recommendations; (4) resources; (5) value added; (6) role in the successful implementation of the GVAP; and (7) IPAC's programmatic guidance/recommendations.

Overall, the results were mixed. There was majority agreement among respondents that IPAC adds value to WHO:IVB and to the field of immunization practices worldwide, but some disagreement as to the adequacy of resources available to the committee. In addition, overall, all categories of respondents ("Members," "Staff" and "Other") agreed that IPAC's relationships with SAGE and other advisory groups lack clarity, and respondents were equally split on whether or not IPAC's relationships with SAGE and TAGs enhances IPAC's ability to achieve its mandate.

4.4.1.1 Clarity of purpose

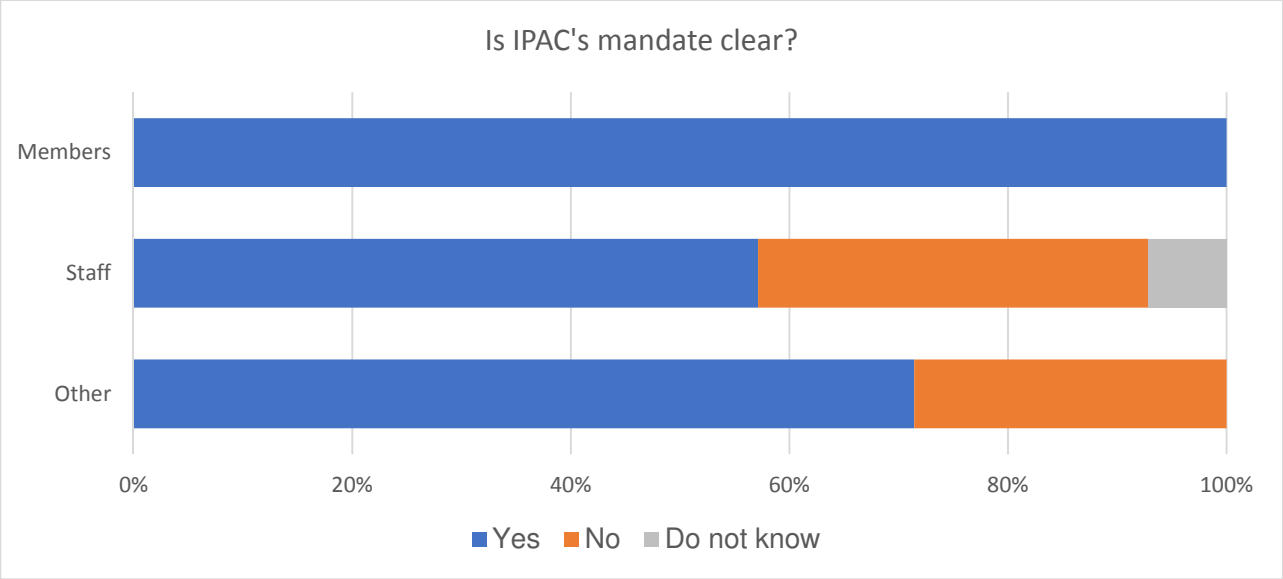
IPAC's clarity of purpose was evaluated through assessment of the perceived clarity of its mandate and whether respondents think that IPAC's focus is to provide operational advice/recommendations and/or provide strategic advice/recommendations.

There was strong agreement amongst all categories that IPAC's mandate is clear (approximately 76%). Looking at the total of survey respondents from each compressed respondent category,

[3] Survey totals by compressed respondent categories are: Members (N=14), Staff (N=14), and Other (N=14)

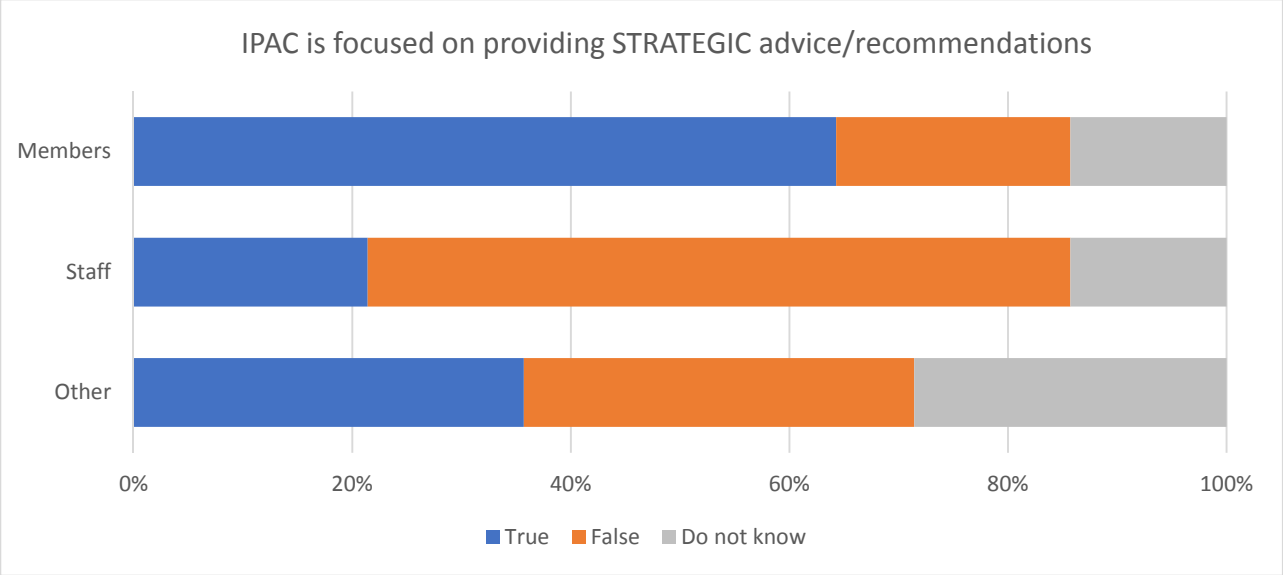
100% of “Members,” approximately 57% of “Staff,” and approximately 71% of “Other” responded that the mandate is clear. Figure 4.2 below illustrates overall responses by respondent category.

Figure 4.2 Mandate: Clarity of Purpose



When asked if IPAC’s focus is to provide operational advice/recommendations, and/or strategic advice/recommendations, responses were varied. The vast majority (approximately 86%) agreed that IPAC’s focus is to provide operational advice and recommendations, but respondents were split on whether IPAC also provides strategic guidance (approximately 41% yes; approximately 41% no). Disaggregated, of the approximately 41% who agreed that strategic guidance is a major focus of IPAC, approximately 53% were “Members,” 17% were “Staff,” and 29% were “Other.” Figure 4.3 below shows the responses disaggregated by respondent category.

Figure 4.3 Mandate: Strategic Advice and Recommendations



4.4.1.2 Adequacy of Guidance

To evaluate the adequacy of guidance, "Members" were asked if they receive adequate support and responsiveness by the Secretariat to facilitate their role as an IPAC member. The majority of respondents surveyed responded positively (approximately 77%), 15% responded that they do not feel that the support and responsiveness is adequate, and 8% did not know.

4.4.1.3 Availability of resources

Survey participants (except partners and industry representatives) (N=28) were asked to indicate whether IPAC has adequate resources to fulfill its mandate. Approximately 61% responded that IPAC does not have adequate resources, while 39% responded that resources are adequate. Of those responding to the qualitative portion of this question, most "Members" commented that the Secretariat is over-worked and short Staffed, while comments from "Staff" were more varied. In addition, all participants were asked if IPAC is connected to partners and organizations that help fulfill its mandate. Approximately 71% responded yes, 12% no, and 17% indicated they do not know.

4.4.1.4 Impact

In order to assess IPAC's impact, a Likert scale was used to gauge opinion on the following:

- IPAC adds value to WHO IVB;
- IPAC adds value to the field of immunization practices;

- IPAC has made significant contributions/played a key role in the successful implementation of GVAP;
- IPAC evidence-based programmatic guidance/recommendations are adopted at the country level;
- IPAC evidence-based programmatic guidance/recommendations are operationalized at the country level.

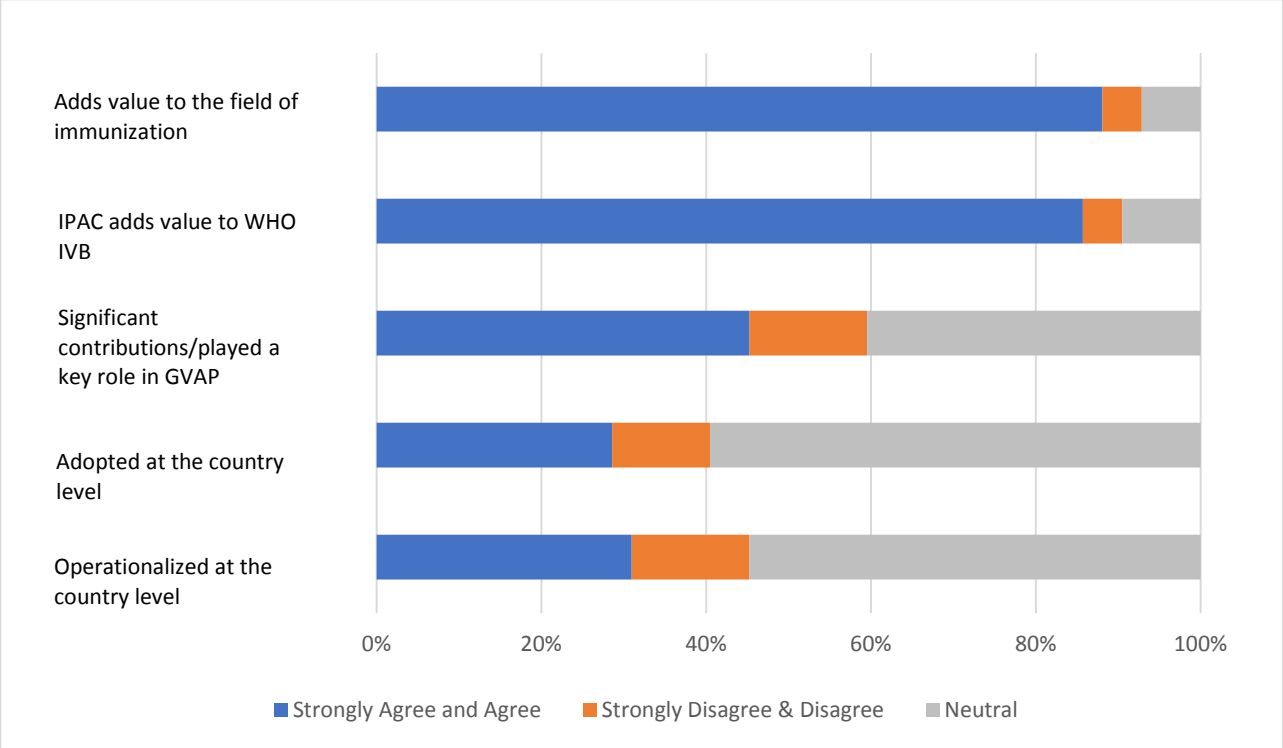
The vast majority (approximately 88%) responded that IPAC **adds value to the field of immunization** and also (approximately 86%) that IPAC **adds value to WHO IVB**. Responses were more varied on the other topics.

When asked about if IPAC has made a **significant contribution/played a key role** in the implementation of the GVAP, approximately 46% agreed or strongly agreed and approximately 41% selected neutral, while approximately 14% disagreed. Only 29% agreed or strongly agreed that IPAC evidence-based programmatic guidance/recommendations are **adopted at the country level**, while approximately 60% selected neutral, and 10% disagreed.

Approximately 31% agreed or strongly agreed that IPAC evidence-based programmatic guidance/recommendations are **operationalized at the country level**. Approximately 55% selected neutral and 12% responded that they disagree.

Figure 4.4 below further illustrates the disparity in agreement/disagreement for the statements pertaining to impact. It should be noted that these expressed concerns and expectations do not reflect IPAC's primary mandate, which is directed towards global-level issues and does not involve demonstrating country-level impact.

Figure 4.4 Mandate: Impact



4.4.2 Structure

To evaluate IPAC's structure, respondents were asked about IPAC's positioning, Membership, communication, documentation, effectiveness, and meetings. There was consensus amongst all categories that IPAC's relationship with SAGE and other advisory groups is unclear. A large proportion of respondents (approximately 41%) indicated not knowing if IPAC is effective in supporting GVAP and GIVS, or if IPAC recommendations are incorporated into global policy.

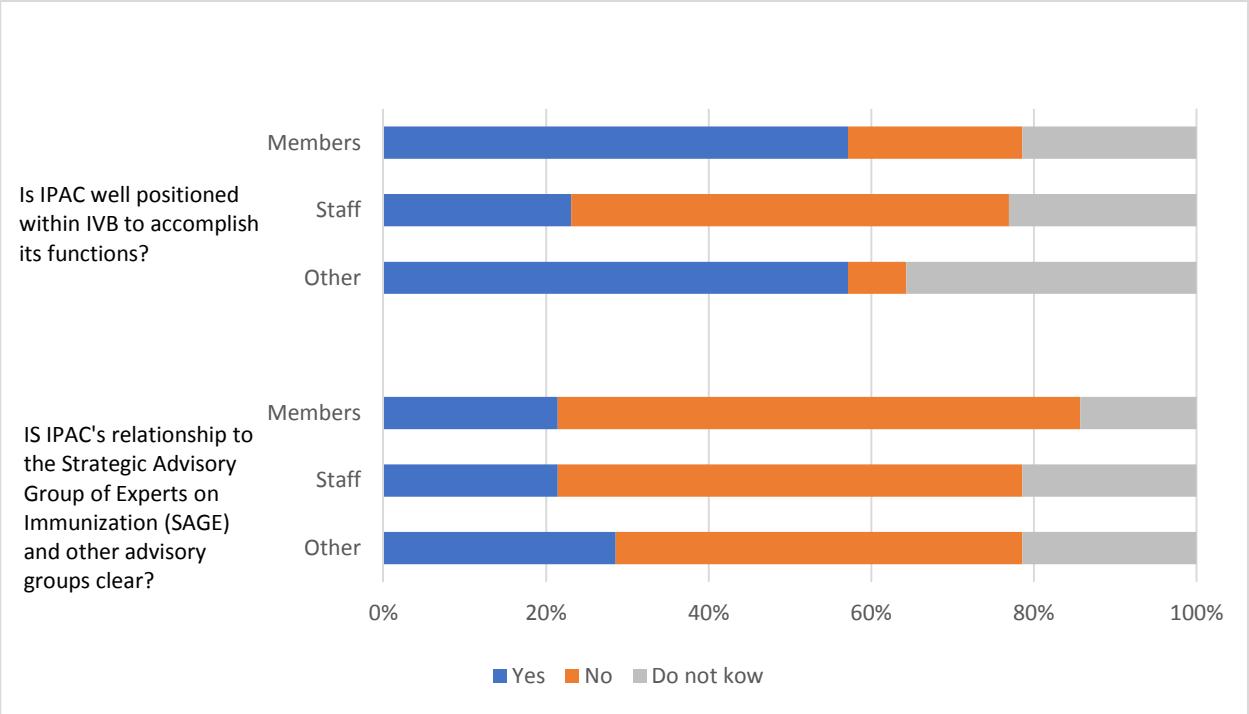
4.4.2.1 Positioning

All survey participants were asked about IPAC's relationship/positioning with WHO/IVB, SAGE and other advisory groups. Over half of all respondents (approximately 57%) indicated that IPAC's relationship with advisory groups, including SAGE, is unclear, while IPAC's positioning within IVB drew greater difference of opinion.

In response to whether IPAC is well positioned within WHO IVB to accomplish its functions, approximately 45% responded yes, 26% no, and 29% indicated they do not know. Figure 4.5 below illustrates the disaggregated responses. Of those who responded yes, approximately 42% were "Members," 42% were "Other," and 16 % were "Staff."

When asked if IPAC's relationship to SAGE and other advisory groups is clear, approximately 57% of all respondents (N=42) indicated it is not clear, 24% that it is clear, and 19% indicated they do not know. Figure 4.5 below shows these disaggregated responses. Of those who responded that these relationships are unclear, approximately 38% were "Members," 33% were "Staff," and 29% were "Other."

Figure 4.5 Structure: Positioning



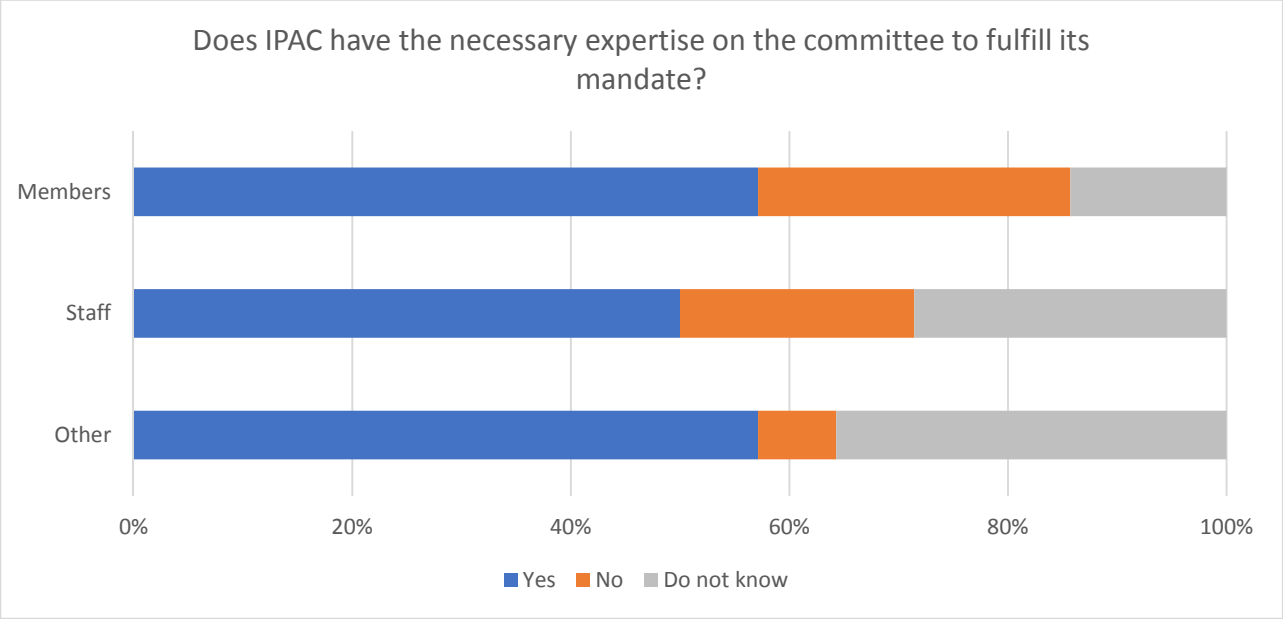
Most survey participants (except partner Staff and industry representatives) (N=28) were asked if IPAC's relationships with SAGE and TAGs enhance IPAC's ability to achieve its mandate. The responses were split. Approximately 29% indicated yes, approximately 29% no, and approximately 43% indicated that they do not know.

4.4.2.2 Membership

In order to get a better sense of perceptions about Membership issues, respondents were asked about Membership composition and the selection process. The vast majority of participants responded that the 3-year term length for IPAC Members is adequate, while just over half responded that IPAC has the necessary expertise to fulfill its mandate. A large proportion (approximately 38%) responded with uncertainty when questioned if the selection process is transparent.

When asked if IPAC has the necessary expertise on the committee to fulfill its mandate, approximately 55% said yes, 19% replied no, and 26% indicated they do not know. Approximately 57% of "Members" completing the survey, approximately 57% of "Other," and 50% of "Staff" indicated that IPAC has the necessary expertise. Figure 4.6 below shows responses to this question by respondent category.

Figure 4.6 Structure: Membership



When asked whether the selection process for the IPAC Chair is clear and transparent, approximately 45% responded yes, 17% no, and 38% responded they do not know. Participants were also asked to rate their opinions on whether the IPAC member selection process is transparent, unbiased, and satisfactory. Table 4.1 below shows the associated responses.

Table 4.1 New Member selection process

	Yes	No	Do not know
Transparent	52%	3%	45%
Unbiased	43%	2%	55%
Satisfactory	50%	5%	45%

Approximately 91% of respondents indicated that the 3-year term for IPAC Members is adequate, and approximately 45% indicated that term renewals are clear and transparent, though a full 43% indicated they do not know

4.4.2.3 Communication

Certain groups of survey participants were asked a series of questions pertaining to communication, availability of information, and use of the TechNet Forum private IPAC site.

The majority of all participants responded that IPAC meetings are well organized, but there was no clear consensus on whether IPAC Members actively participate during meetings. (It should be noted that approximately 19% of all respondents indicated they have never attended an IPAC meeting.) Current Members (N=11) were asked if they have received adequate information to fully contribute as an IPAC member, with approximately 91% indicating yes and 9% no. When all survey participants (except partner Staff and industry representatives) were asked if the new modality has improved IPAC's operational efficiency, the majority (approximately 61%) indicated they do not know. All survey participants were asked if, in their opinion, recommendations generated by IPAC are free of conflict of interest. Approximately 71% said yes, while 21% indicated they do not know.

Survey participants (except for partners and industry representatives) (N= 28) were asked if they understand the purpose of the IPAC group on the TechNet site. Only half of "Members" and "Staff" (50%) indicated that they understand the purpose of the IPAC group on the TechNet site, and the vast majority indicated they do not fully utilize the site. In response to their perception as to whether information that is shared and exchanged in the IPAC group on the TechNet site is kept confidential, approximately 61% indicated that they do not know, while 36% said it is kept confidential, and only 4% said that it is not kept confidential. When respondents (except partners and industry representatives) (N=28) were asked if, in their opinion, the IPAC group on the TechNet site is fully utilized by all IPAC Members, approximately 86% responded that it is not and only 14% responded that it is.

All survey participants were asked their agreement with the following statements resulting in no clear consensus in responses on any:

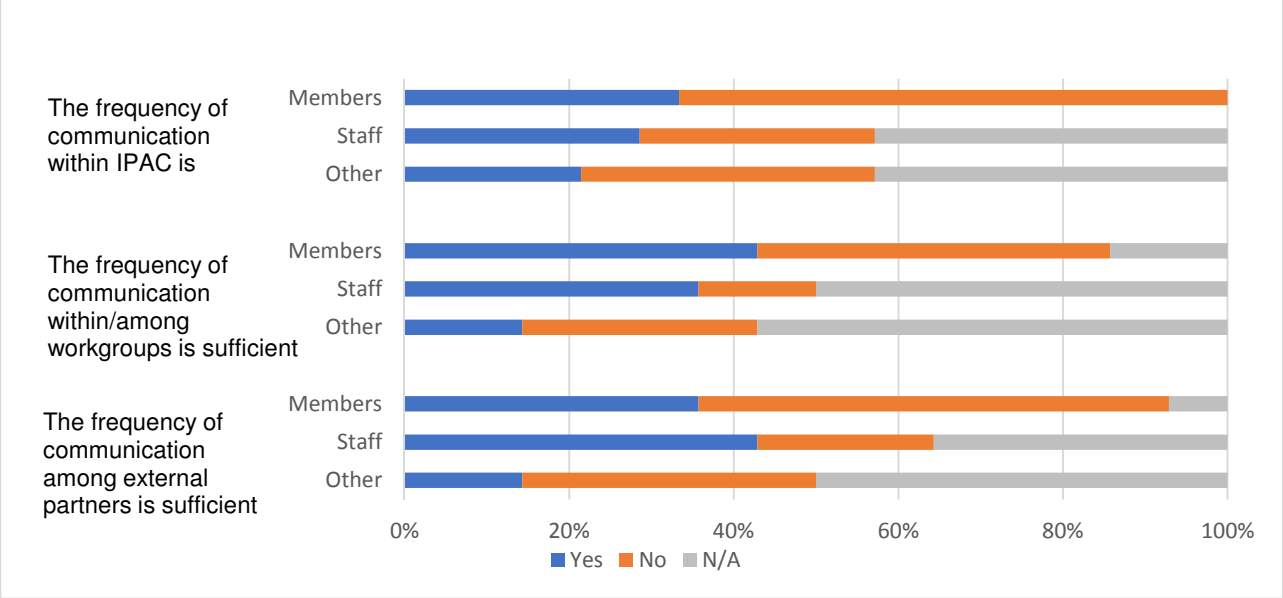
- The frequency of communication within IPAC is sufficient.
- The frequency of communication within/among workgroups is sufficient.
- The frequency of communication among external partners is sufficient.

First, when asked if the frequency of communication within IPAC is sufficient, approximately 33% responded no, 31% responded yes, and 36% indicated that this is not applicable to them. Of the approximately 33% who responded no, approximately 57% were "Members," 21% were "Staff," and 36% were "Other." Of the approximately 31% who responded yes, approximately 38% were "Members," 46% were "Staff," and 15% were "Other."

Second, when asked if the frequency of communication within/among workgroups is sufficient, approximately 31% responded yes, 29% responded no, and 40% indicated that this question is not applicable to them. Of the approximately 29% who responded no, approximately 50% were "Members," 17% were "Staff," and 29% were "Other." Of the approximately 31% who responded yes, approximately 46% were "Members," 38% were "Staff", and 15% were "Other."

Finally, when asked whether the frequency of communication among external partners is sufficient, approximately 26% responded yes, 41% responded no, and 33% indicated that this question is not applicable to them. Of the 41% who responded no, approximately 47% were "Members," 24% were "Staff," and 29% were "Other." Figure 4.7 below illustrates the responses to these statements by category.

Figure 4.7 Structure: Communication



4.4.2.4 Documentation

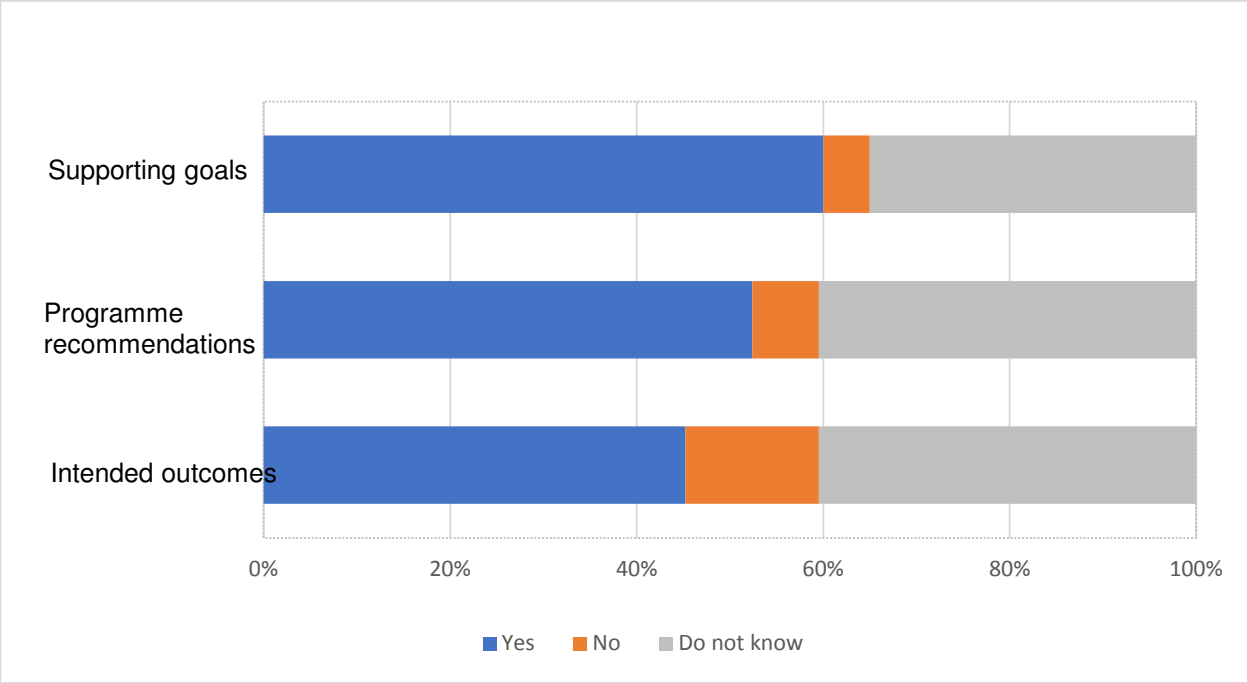
All survey participants were asked whether IPAC documents and disseminates decisions and recommendations as needed. Approximately 57% responded yes, 29% responded no, and 14% indicated they do not know. Of those who responded affirmatively (N=24) approximately 33% were "Members," 42% were "Staff," and 25% were "Other."

4.4.2.5 Effectiveness

Survey participants were asked to provide their overall perception of IPAC's effectiveness related to its role in supporting global strategies, action plans, and the work of IPAC subgroups.

When asked if IPAC is effective in **supporting the goals** of GIVS and GVAP, approximately 45% responded yes, 14% responded no, and 41% responded they do not know. In response to whether IPAC **programmatic recommendations** are incorporated into global policies, approximately 52% responded yes, 7% responded no, and 41% indicated they do not know. The majority of respondents (approximately 57%) indicated that IPAC subgroups, such as VPPAG and PSPQ SC, are effective in achieving the **intended outcomes**. Figure 4.8 below show the breakdown of responses for each of the three questions.

Figure 4.8 Structure: Effectiveness



4.4.2.6 Meetings

A series of questions were asked to get a better sense of the perception of the frequency, level of participation, and overall effectiveness of IPAC meetings.

In general, participants responded that they find meetings to be purposeful, effective, and well organized. But responses were more evenly distributed when asked whether or not IPAC Members actively participate during meetings. Approximately 19% of all respondents indicated they have never attended an IPAC meeting, 31% have attended 1-3 meetings, 21% have attended 4-6 meetings, and 29% have attended 7-9 meetings. Survey participants (except partners and industry representatives) (N=28) were asked if the roles of IPAC Members, observers, and participants are clearly defined. Approximately 71% responded that roles are clearly defined, 18% responded they are not, and 11% indicated that they do not know.

All participants were asked to indicate their agreement with the following statements:

- **IPAC meetings are effective:** Approximately 69% of respondents agreed, 10% disagreed, and 21% were neutral or had no basis to judge.
- **IPAC meetings produce the intended outcomes:** Approximately 60% agreed or strongly agreed, but there was some variation by respondent category. Approximately 71% of "Members", 57% of "Staff", and 50% "Other" agreed with the statement.
- **IPAC meetings follow set agendas:** Approximately 81% of all respondents agreed, 0% disagreed, and 19% were neutral or had no basis to judge. All respondent categories were in alignment on this topic.
- **IPAC meetings are purposeful:** When asked to rate if IPAC meetings are purposeful, approximately 64% agreed, 5% disagreed, and 31% were neutral or indicated they had no basis to judge.
- **IPAC meetings are well organized:** Approximately 76% agreed, 0% disagreed, and approximately 24% responded they were neutral or had no basis to judge.

Figures 4.9 and 4.10 below show responses to the five statements disaggregated by category.

Figure 4.9 Structure: Purpose, Outcomes, Effectiveness of Meetings

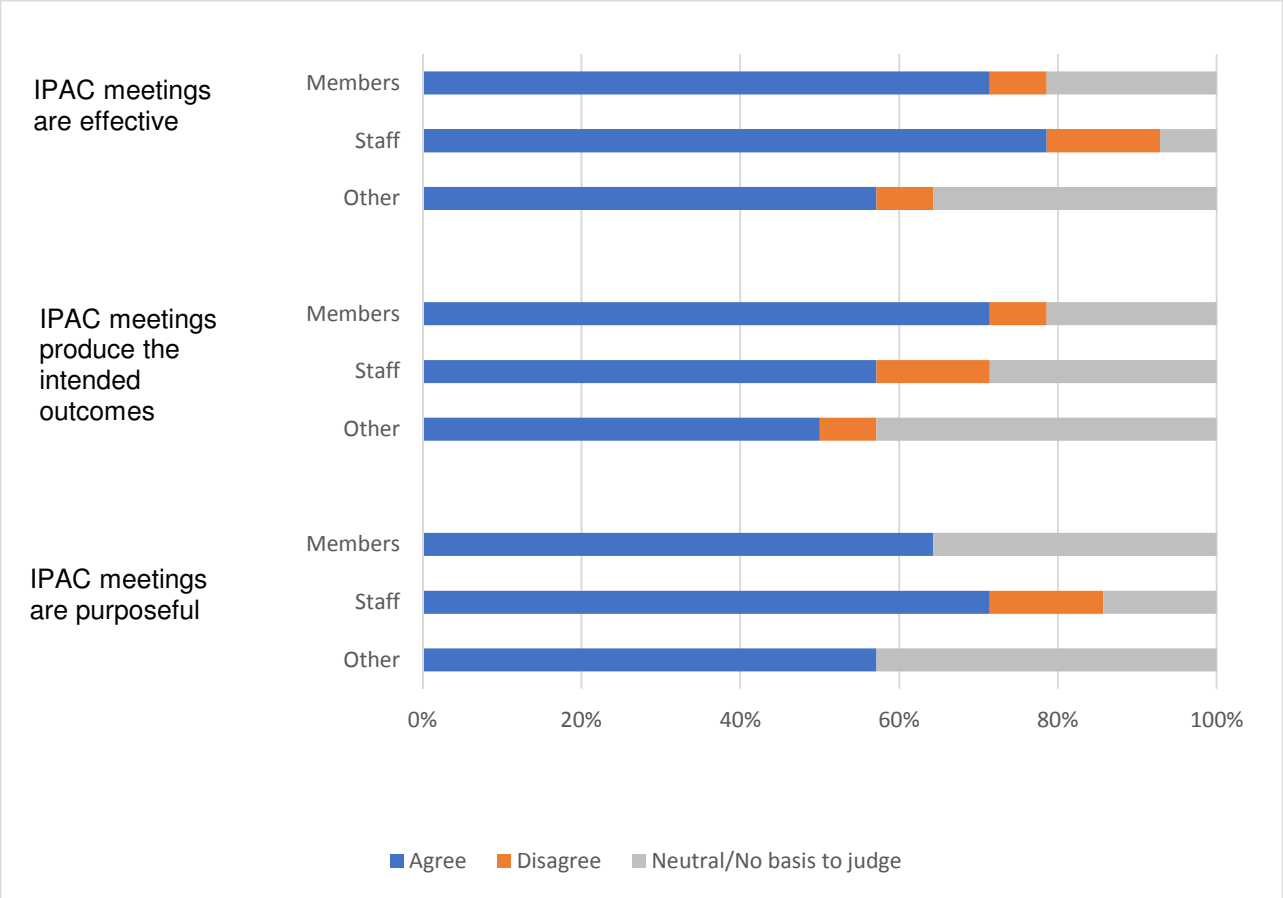
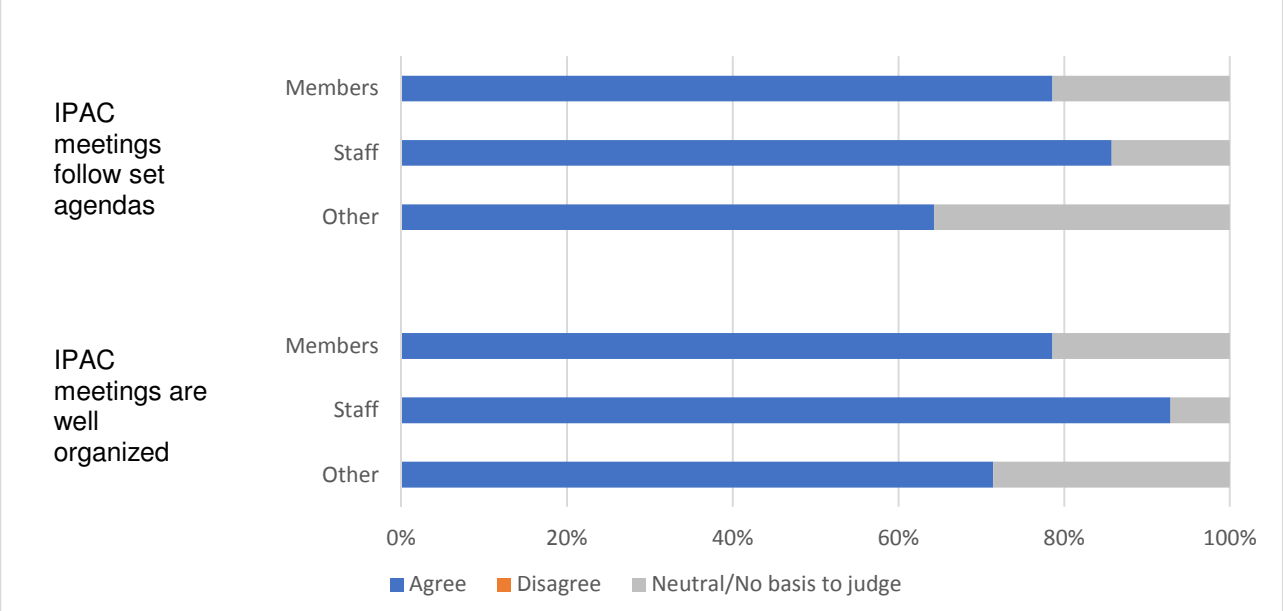


Figure 4.10 Structure: Organization and Agendas of Meetings



4.4.3 Evolution

Regarding the evolution of IPAC participants were asked to share their perspectives on adaptations and lessons learned. These qualitative findings show a wide variety of reflections and recommendations, both positive and negative.

In addition, "Members" and "Staff" were asked to evaluate whether IPAC's New Operating Modality has improved efficiency by increasing member engagement, improving IPAC's ability to address issues as they emerge or peak, and facilitating IPAC's connection with Members as needed. Of those who responded, approximately two-thirds said they did not know, less than one-third responded no, and very few responded yes. In the qualitative component of this question, some "Members" described aspects of the new modality as creating "too few shared interactions" and noted that "it has become difficult to remain engaged as the frequency of meetings has decreased." In general, most of the negative comments about the new modality can be credited to "Members," but a majority of all respondents were unsure if operational efficiency has been improved.

4.4.4 Adaptations and lessons learned

All participants were provided the opportunity to comment on the following statements:

- Based on your experience with IPAC, how has the balance of IPAC's work changed over time?
- Name at least one challenge IPAC has faced in the last year.
- Share any demonstrated improvement in the function of IPAC.
- Share any demonstrated improvement in the utility of IPAC.
- Share any demonstrated improvement in the contribution of IPAC.

Responses from these qualitative questions are summarized below.

Change in balance of IPAC's work over time:

There was wide variability in responses with some indicating improvement, others indicating a decrease and others who see no major changes and the work having generally stayed the same.

- The focus is currently on more global strategy
- The volume of work has been reduced over time
- There seems to be a move a away from technology-centric agenda items
- More of IPAC's work is conducted through workgroups

Challenges IPAC has faced in the last year:

The themes that emerged from this question were more prominent. Several people noted that a lack of resources, including funding and WHO Staff supporting IPAC, were the major challenges. Several people also described adjustments to the new modality, including use of the TechNet site and the lack of an in-person meeting in the last year.

- Lack of clarity on IPAC's relationship with SAGE
- Lack of resources
- Switch to a more virtual platform (TechNet)
- Lack of in-person meetings

***Share any demonstrated improvement in the function of IPAC*:**

The vast majority of respondents did not provide comments for this section. Of those who did respond, several noted that IPAC has not shown any demonstrated improvements in this area.

***Share any demonstrated improvement in the utility of IPAC*:**

The majority of those who responded listed IPAC products or subgroups as demonstrated improvements in utility.

- Multi-dose vial policy
- PSPQ
- Controlled temperature chain technology
- Expertise on IPAC that is now used on other working groups

In addition, there were several respondents who noted that IPAC has not shown any improvement in this area.

Share any demonstrated improvement in the contribution of IPAC:

The vast majority of respondents did not provide comments for this section. Of those who did respond, they indicated that the Call to Action document, IPAC's expertise that is now available on working groups, and IPAC's recommendations to WHO guidelines and publications were examples of improvement in the contribution of IPAC.

4.4.5 Fitness for purpose

In order to assess IPAC's current fitness for purpose, we asked participants to choose the areas in which they feel that IPAC has offered the most value-added and the areas in which IPAC has made the most contribution to the global immunization practice. Operations received the largest percentage of responses for both categories.

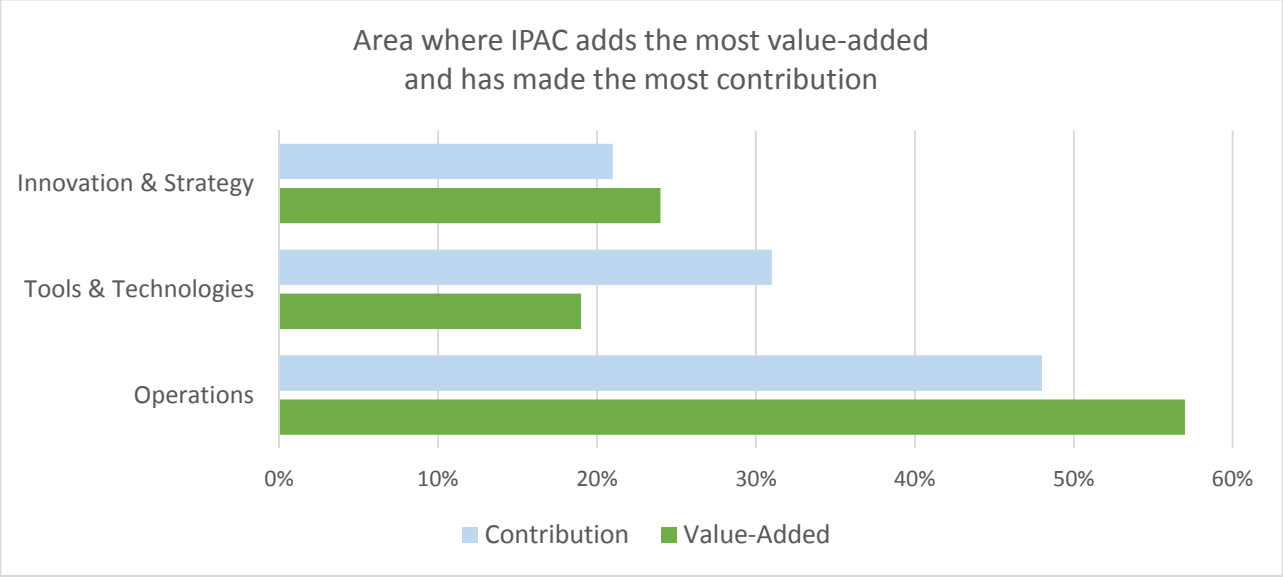
4.4.5.1 Areas of contribution

All survey participants were asked about where IPAC has had the most value-added (Operations, Innovation and Strategy, or Tools and Technologies). Approximately 57% indicated that IPAC offers the most value added in the area of Operations, 24% selected Innovation and Strategy, and 19% selected Tools and Technologies.

Survey participants were also asked to select the areas where they think IPAC has made the most contribution to global immunization practice. Approximately 48% responded that the most contribution has been made in the area of Operations, 31% selected Tools and Technologies, and 21% selected Innovation and Strategy.

Figure 4.11 below illustrates responses to both of these questions.

Figure 4.11 Fitness for Purpose: Areas of Contribution



4.4.5.2 Efficiency, effectives, quality and usefulness

In order to gauge perceptions about IPAC's efficiency, we asked all participants if they feel that IPAC functions efficiently to maximize its impact on global immunization practices. There was no clear consensus. Approximately 43% responded no, approximately 26% responded yes, and approximately 31% responded they do not know.

All survey respondents were also asked to rate the following statements pertaining to IPAC:

- **Overall efficiency of IPAC (The degree to which the amount of work performed matched the actual outcome):** Approximately 60% selected good or better, 14% selected poor or worse, and 26% selected no basis to judge
- **Overall effectiveness of IPAC (The degree to which IPAC successfully produces desired outcomes):** Approximately 61% selected good or better, 26% selected poor or worse, and 12% selected no basis to judge
- **Overall quality of IPAC (The value of IPAC recommendations):** Approximately 71% selected good or better, 7% selected poor or worse, and 12% selected no basis to judge
- **Overall usefulness of IPAC:** Approximately 69% selected good or better, 17% selected poor or worse, and 14% selected no basis to judge

Figures 4.12 and 4.13 below represent the responses to these five statements disaggregated by respondent category.

Figure 4.12 Fitness for Purpose: Usefulness and Effectiveness

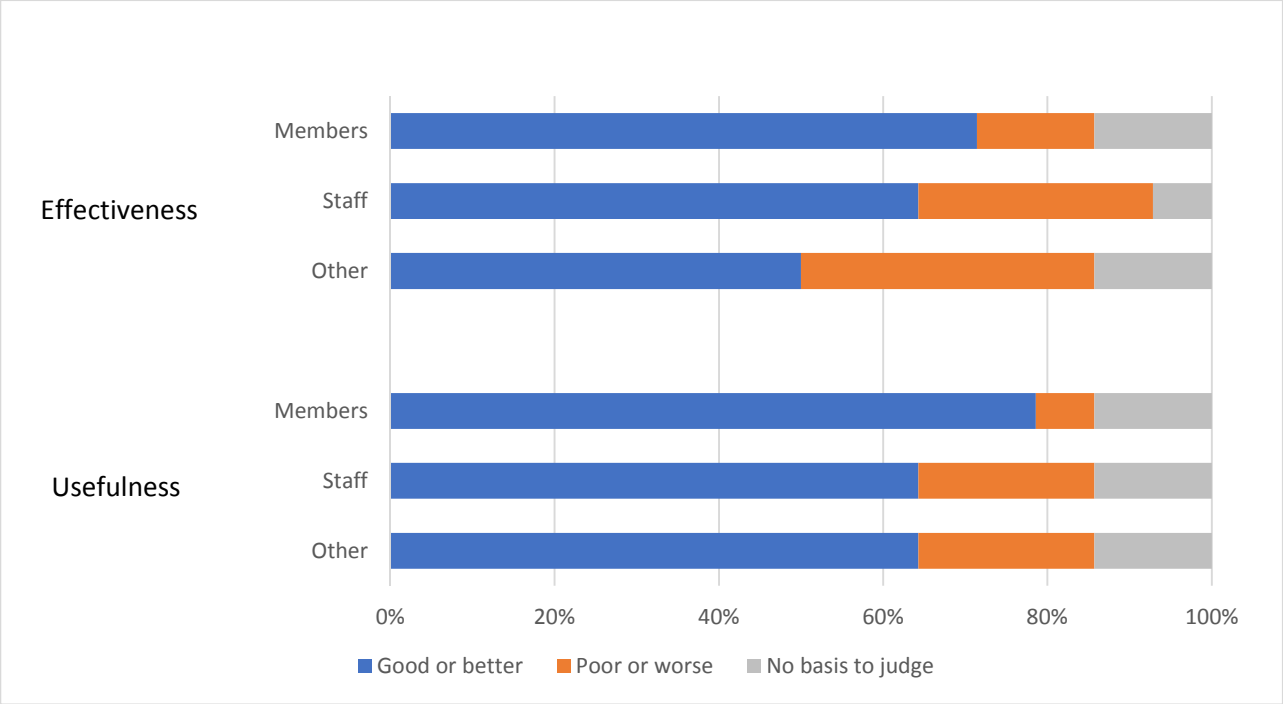


Figure 4.13 Fitness for Purpose: Quality and Efficiency

4.4.6 Future directions

All participants were invited to comment on areas of contribution and recommendations for improvement of IPAC. Dominant themes did not emerge from this qualitative information, but smaller themes were identified and noted in Table 4.2 below.

Table 4.2 Future Directions

Future Directions: Potential Areas of Contribution: *In what way do you feel a committee with IPAC's mandate could potentially contribute to the work of WHO and partners on **strengthening** immunization programmes? Please also indicate what needs to change to strengthen IPAC in this area*
• Focus on implementing issues specifically related to GVAP • Better engage with Regional/Country level Staff and provide better follow up at these levels • Better integrate into WHO, specifically regarding a better defined relationship with SAGE • Invest in research, including field studies for better evidence-based decisions
Future Directions: Recommendations for Improvement: *Please share specific recommendations for improvements going forward in the area of Innovation and Strategy*
• Focus on evidence-based research • Create better linkages with other WHO committees and workgroups working on these issues • Renew focus on innovations in cold chain technology • Better integrate immunization into primary health care interventions
Future Directions: Recommendations for Improvement: *Please share specific recommendations for improvements going forward in the area of Operations*
• Focus on monitoring of immunization program and better data collection • Establish better relationships with NITAGs (cont.)

• (cont.) Develop training materials for vaccine administration • Better document global immunization best practices
Future Directions: Recommendations for Improvement: *Please share specific recommendations for improvements going forward in the area of Tools and Technologies*
• Focus on simpler technology for hard to reach populations • Encourage further links between IPAC and the TechNet community • Focus on implementation pathways and implications of new technologies • Better enlist industry expertise to inform recommendations
Future Directions: Recommendations for Improvement: *Recommendations for improvement in other areas*
• Set IPAC's top 3-5 priorities and come up with a work plan • Broaden Membership to include more regional representation • Strengthen participation of DCVMN • Broaden the overall awareness of IPAC by better marketing what IPAC does

4.5 Interview findings

Individual interviews were conducted to contribute further to the research question, "Is IPAC positioned to achieve its intended outcomes and contribute optimally to global immunization practices?" A total of 44 interviews were conducted (52% response rate) with a fairly even distribution across compressed respondent categories[4]. Analysis of the interview results was performed in the following areas: (1) structure/function, (2) evolution (successes and challenges), and (3) future direction and areas for change/improvement. Findings in each of these areas are presented below.

4.5.1 Structure/function

Four themes emerged through analysis of structure/function: (1) operations and communications, (2) member composition and roles, (3) mandate, and (4) IPAC's operating modality. Comments across all compressed respondent categories were included, with approximately 40% of comments obtained from "Members," 38% from "Other" and 22% from "Staff." Tables 4.3 – 4.8 further illustrate the corresponding dominant/majority comments noted for each theme.

4.5.1.1 Operations and communications

Interview subjects indicated that communication, information and visibility were of primary concern. "Other" interview subjects were most vocal in this area with more than 60% of the comments coming from this group, 30% from "Members," and less than 5% from "Staff."

[4] Interview totals by compressed respondent categories are: Members (N=14), Staff (N=16), and Other (N=14)

Table 4.3 Structure/function: Operations and Communications

Operations and communications
▪ Lack of communication
▪ Lack of new member orientation
▪ Uninformed except for the bulletin
▪ Lack of clarity on method, mode and substance of communication between meetings; feeling disconnected

4.5.1.2 Member composition and roles

Member composition and roles receive slightly more comments than operations and communications, with comments centered on inputs from observers and industry representatives, striking a balance of experience and expertise among IPAC Members, and the need for clarity on role differentiation. Approximately 45% of the comments in this area came from "Members," 31% from "Other," and 24% from "Staff." Within the comments received from "Other" interview subjects, half were from partner Staff.

Table 4.4 Structure/function: Member Composition and Roles

Member composition and roles
▪ Observers/industry representatives ○ Bring value to discussions ○ Structure doesn't allow inputs from these groups ○ Need to be wary, closed door sessions without them are necessary
▪ Members ○ Need Members with adequate field experience ○ Structure needs to reflect balanced experience ○ Competing interests/responsibilities impede contribution ○ Need for more high-level nominees
▪ Confusion and lack of clarity on differentiation between roles of Members and observers

4.5.1.3 Mandate

Comments related to IPAC's mandate, summarized in Table 4.5 below, included those on the breadth, focus and inputs into the work to fulfill the mandate. Approximately the same amount of comments was received in this area as with operations and communications. Nearly half (46%) of comments obtained regarding IPAC's mandate were from "Members," 25% from "Staff," and 29% from "Other." Within the comments received from "Other" interview subjects, nearly three-quarters were from partner Staff.

Table 4.5 Structure/function: Mandate

Mandate
▪ Mandate is too broad ○ Difficult to have accurate representation of expertise ○ Inhibits advice ○ Need better clarity to avoid overlap and duplication with other groups ○ Redundancy in already saturated field ○ Terms of reference need clarification ○ Question need for IPAC/another separate committee
▪ Focus is unclear ○ Priority setting: tension over whether IPAC is to set own priorities or provide inputs to an established agenda ○ Should influence policy development in programmatic and logistical areas ○ Focus on scaling up technology and logistics issues in the field ○ The same issues are discussed at meetings
▪ Lack of regional perspective and consultation ○ Need for more regional focus ○ Inadequate interaction with regional TAGs ○ Need to adapt recommendations to the regional perspective ○ Need for more country and regional representation

4.5.1.4 IPAC operating modality

Comments with respect to IPAC's operating modality were numerous, with the more than half of those obtained referencing the new (current) modality, one-quarter the past modality, and the remainder regarding IPAC's use of TechNet. Approximately 90% of comments obtained about the new (current) modality were from "Members" and "Other" interview subject equally, and half of the "Other" comments were derived form partner Staff. As would be anticipated, the majority of comments on the past modality and on IPAC's use of TechNet were obtained from "Members." Tables 4.6 – 4.8 below provide details on the dominant comments received in each of these areas.

Table 4.6 IPAC's Operating Modality: Past Modality

Past IPAC structure	
Positive	**Negative**
▪ Face-to-face meetings produced good outcomes ▪ Fostered positive interactions ▪ Role, purpose and expectations clear; clear direction ▪ Fluid, close interaction with Secretariat, Committee and WHO ▪ Coherent, coordinated and knowledgeable ▪ Working groups valuable - provided specific inputs ▪ Fluid, clear, good communication	▪ Not productive ▪ Lack of clarity on meeting objectives, topic selection, and role of Secretariat ▪ Overly burdensome and duplicative ▪ Secretariat labor intensive with minimal committee outputs ▪ Insular and out of sync with other groups; ▪ Timing was out of sync ▪ Limited member bandwidth

Table 4.7 IPAC's operating modality: New (current) Modality

Current IPAC structure/New Operating Modality	
Positive	**Negative**
▪ Effective and useful ▪ Improved visibility with IPAC representation on other groups ▪ Improved clarity ▪ Provide practical viewpoint to SAGE issues ▪ Operationally sound ▪ Meetings well organized ▪ Allows for more flexibility and responsiveness; More continuous work stream ▪ Better advice provided to IVB as IPAC is not a decision-making body ▪ Perception that IPAC Members represent themselves and is seen as an improvement ▪ Composition of expertise is diverse; Good balance of experts ▪ Structure fosters interaction among different groups	▪ New modality has negatively impacted engagement; Decreased level of participation, discussion and interaction; More fragmented, distant and less cohesive ▪ Less frequent meeting changes dynamic and outputs ▪ Lack of continuity with change in frequency of face-to-face meetings ▪ Diminishes IPAC brand, expertise and experience ▪ Unknown direction or strategic plans ▪ New modality brings increased constraint on observers ▪ Integrating new Members is difficult with new modality; Operations unclear

Table 4.8 IPAC's operating modality: IPAC Use of TechNet

TechNet
▪ Communication o Minimal use and exchange o Not forum for communication exchange o Not preferred method o Can't replace other interactions and engagement
▪ Use o Purpose unclear o Passive, need to be driven to it o Not fully operationalized yet ▪ Lack of use ▪ Resistance ▪ Slow uptake by Members o Connectivity issues for virtual platform

4.5.2 Evolution (Successes, Challenges)

Interview subjects were asked to share specific examples of IPAC successes and challenges. [Note: The question was also rephrased as "IPAC positives and negatives."] Responses in both categories are noted in the tables below. The percentage of interview subjects for each response is provided. Subjects were allowed to provide more than one example.

Table 4.9 IPAC Evolution: Successes/Positives

Successes/Positives (N=44)	
Response	**Percentage of interview subjects noting response**
▪ Controlled Temperature Chain guidelines	25%
▪ Programmatic Suitability for Prequalification	20%
▪ Engagement with other/broad groups	18%
▪ Supply Chain and Logistics: A Call-to-Action	16%
▪ Multi-Dose Vial Policy	14%
▪ Field/operational knowledge	7%
▪ Contributions to WHO	7%
▪ Inputs on technology	2%
▪ No successes or impact to note	23%

Table 4.10 IPAC Evolution: Challenges/Negatives

Challenges/Negatives	
Response	**Percentage of interview subjects noting response**
▪ Visual cues	34%
▪ Value/Impact unknown/Not needed	32%
▪ New Operating Modality	23%
▪ TechNet	11%
▪ Operations	16%
▪ Robustness of recommendations	9%
▪ Clarity of role	7%
▪ Visibility	5%
▪ Resource constraints	5%
▪ Scope	5%
▪ No challenges noted	11%

4.5.3 Future direction and areas for change/improvement

Interview subjects were asked to share specific recommendations on both the future direction of IPAC and areas for change/improvement. Inputs were noted in the areas of (1) engagements, (2) scope and operations, and (3) impact and strength of purpose. (Details can be found in the tables below.) In addition, the majority of interview subjects provided insights on IPAC's relationship with SAGE. These insights are included as findings and are noted below.

4.5.3.1 Engagement

Engagement was a dominant theme that emerged among interview subjects, with the majority of comments occurring in the areas of: (1) enhance IPAC Membership, (2) strengthen regional

and country-level inputs, and (3) clarify IPAC's voice. Comments are representative of all respondent categories with the majority of comments in each area obtained from "Members" and "Staff" interview respondents and fewer from "Other." Partner Staff in the "Other" interview respondent category did weigh in more heavily on engagement in general, enhancing Membership and strengthening regional and country level inputs.

Table 4.11 Future directions: Engagement

Engagement
▪ Enhance IPAC Membership ○ Broaden Membership and member recruitment ▪ Increase the number of Members with expertise and direct field experience ▪ Broaden IPAC Membership to include more regional and developing country representation ○ Increase member interactions with TAGs
▪ Strengthen regional and country-level inputs ○ Identify and work on regional priorities ○ Focus on country-level implementation issues ○ Better regionalize IPAC recommendations ○ Expand IPAC representation from the field to enhance real-time representation of the country-level context for recommendations
▪ Clarify IPAC's voice ○ Better develop "one common voice" of IPAC; knowledge of "the voice of IPAC" would be a noted strength ○ Consider how the voice of IPAC has been communicated and improve upon it ○ Provide the opportunity for a more country-level voice ○ Indicate whether IPAC is an active or passive voice/presence in the field

4.5.3.2 Scope and operations

IPAC's scope and operations were noted across interview subjects, with an equal number of comments received for each. With respect to scope, approximately 52% of the comments were obtained from "Staff," 38% from "Other" (half being from partner Staff), and 10% from "Members."

For operations, the distribution was somewhat reversed, with 50% of comments obtained from "Other" (more than half of those from partner Staff), 36% from "Staff," and 14% from "Members." In general, there were mixed perspectives as to whether IPAC's scope should be broadened (move beyond technical issues to policy issues) versus be narrowed (find a niche). Interview subjects offered recommendations as to how IPAC's scope could be better understood, specific examples of what they felt the scope of IPAC should be focused in the future, and recommendations related to operations, details for which can be found in Table 4.12 below.

Table 4.12 Future direction: Scope and Operations

Scope	Operations
▪ Better delineate the need and use of IPAC ▪ Clarify and better communicate what IPAC does and does not do ▪ Prioritize practice research ▪ Work to identify and define strengths in the global policy process ▪ Advise governments for more accurate reporting of vaccine coverage ▪ Advocate and secure government commitments to immunizations ▪ Focus on operational research and more on operational issues facing countries ▪ Provide clarification on role and path of IPAC	▪ Ensure inclusion in all working groups to provide program perspective ▪ Better clarify roles of Members and observers ▪ Strengthen the s ▪ Conduct more discussions on operations and logistics ▪ IPAC could benefit from being more active ▪ Build more strength to move the immunization agenda forward ▪ Increase interaction (contact and frequency) and engagement among Members ▪ Improve logistics to foster greater member and observer interaction ▪ Better prioritize the work of IPAC

4.5.3.3 Impact and strength of purpose

Interview subjects were asked to comment on the impact and contributions that IPAC makes to the field. The majority of subjects indicated that the impact and contribution are unclear, assumed but not known, and that IPAC does not have enough outputs. Specific comments on how to improve IPAC's strength of purpose were gathered and are noted in Table 4.13 below. Of those interview subjects who provided comments, the majority (53%) were "Staff," 40% "Other" (of which nearly all were contributed by partner Staff), and only 7% from "Members." It is interesting to note that this area is a lone category where "Members" interview subjects did not provide significant inputs.

Table 4.13 Future Directions: Strength of Purpose

Strength of purpose
▪ Need for more clarity around prioritization of work ▪ Need for more rigor to inform decisions ▪ Need for more transparency from WHO ▪ Need assurance of WHO support for IPAC ▪ Need for more research on implementation practices ▪ Need for more clarity on decision-making ▪ Need for more time, resource and expertise to provide recommendations

4.5.3.4 Relationship with SAGE

Though IPAC's relationship with SAGE was a not a specific interview topic, related comments emerged with more than half (61%) of interview subjects and fairly equally distributed across respondent categories and questions. Taken as a whole, these observations contribute to the information gathered on future direction for IPAC and changes needed to strengthen IPAC. The main areas highlighted by interview subjects are presented below with the corresponding dominant/majority comments noted for each area.

Table 4.14 Future Directions: Relationship with SAGE

SAGE comments (N=27)
▪ Lack of clarity and disconnect between IPAC and SAGE ○ Disconnect on how IPAC fits with SAGE ○ Need to improve linkage with SAGE ○ Lack of clarity on relationship between SAGE and IPAC ○ Better define role and terms of reference with SAGE; lack of differentiation ○ Position of IPAC in relation to SAGE unclear
▪ Contribution of IPAC unclear ○ IPAC Members on SAGE working groups is positive contribution ○ IPAC contribution to SAGE falls short ○ IPAC not contributing meaningfully to SAGE/ No added value to SAGE ○ Link is important but effectiveness is unclear; room for improvement ○ IPAC should fill gaps on SAGE
▪ Low percentage of positive comments about relationship between IPAC and SAGE

5. Conclusions

It is clearly a time of change for IPAC, as the New Operating Modality is being introduced to better optimize IPAC's contribution to the field and as IPAC's Membership transitions as well. With change comes uncertainty, discomfort and tension and this evaluation demonstrates that IPAC is experiencing these as well. And, as is true for most organizations navigating a period of change or transition, IPAC must recognize the potential shortfalls and unintended consequences of its change and take steps to remedy them and establish more sustainable and focused operational efficiencies.

In conducting this evaluation, the report authors found it was challenging to methodically assess the current state of IPAC during this time of significant change, specifically as the transition period of the New Operating Modality is not yet concluded. Based on evaluation results, this also seemed to prove difficult for IPAC Members and partners, as well as the Secretariat and WHO Staff when reflecting on IPAC's current status. The timing of this evaluation is useful in identifying areas that need greater clarity and attention, offering an opportunity for some operational mid course corrections.

Based on the desk review and results from the survey and interviews[5], the following general conclusions focus on a historical analysis of IPAC's past work and operations and a speculative look-forward to areas for improvement:

[5] There was general consistency between survey and interview findings on similar issues.

- **IPAC's advice to WHO and contributions to immunizations operational practices are widely viewed as successes.** IPAC has met its mandate on most measures. In general, IPAC is viewed positively in terms of operational efficiency, effectiveness, and in providing useful, quality advice. However, it is viewed less favorably in the areas of providing advice on strategic or innovation issues and in tools and technologies.
- **IPAC's purpose, role and achievements are not clear or effectively communicated**. Despite the general positive attitudes about IPAC, there has been considerable confusion, or lack of recognition (especially external to IPAC itself), about IPAC's purpose, how it relates to other immunization advisory groups and what it brings distinctly to broader global immunization discussions. There is critical need for more clarity on IPAC's purpose, scope and issues under its purview, functions. There is substantial opportunity for better communication—both internal (within WHO and its advisory groups) and external to increase IPAC's visibility and validate its past contributions and potential for future impact. There is a need to better clarify what constitutes the "voice" of IPAC and whether IPAC Members have the full backing of the committee in their recommendations.
- **IPAC lacks internal cohesiveness**. IPAC current and former Members, as well as others, noted concern about the lack of internal cohesion among IPAC Members and specific concerns about the lack of internal communications amongst Members, the orientation of new, inexperienced Members and confusion as to when and how to fully engage the committee on certain topics. In general, IPAC Members do not use the TechNet Forum for IPAC discussions and many, if not most, do not use the TechNet Forum at all.
- **WHO has disparate views on IPAC**. There were distinct differences of opinion about IPAC expressed by WHO Staff Members at various levels. Some staff were very supportive of IPAC and its impact, role and past and potential future contributions; others held explicitly negative views in these same areas.
- **There is a perceived lack of strategic insight about IPAC future directions**. IPAC Members' contributions in the area of future directions or recommendations for changes were few. This may be related to the NOM not yet being fully operational and Members not feeling fully informed or engaged. It is particularly interesting that the majority of specific ideas on IPAC's future contributions came from those outside the committee more so than within. Regardless, this is an area for WHO attention and IPAC engagement.
- **IPAC is viewed as lacking country impact and regional and country expertise**. While many who participated in this evaluation seem to appreciate and recognize IPAC's operational and field expertise, most do not see IPAC recommendations as

having country-level impact or regional or country-level inputs, nor having a country-level implementation science base. In addition, many expressed views that IPAC needs to be more inclusive with more country- and/or regional-level expertise. This may not reflect the reality of IPAC's current Membership, but it was an expressed view nonetheless. It should also be noted that these expressed concerns and expectations do not reflect IPAC's primary mandate, which is directed towards global-level issues and does not involve demonstrating country-level impact. It is possible this issue is linked to a lack of documenting and communicating IPAC's impact at country level.

- **There is a need for specific IPAC benchmarks**. IPAC outcomes and performance should be assessed. This evaluation provides a rich opportunity to identify benchmarks against which IPAC's contribution and performance is measured.
- **The New Operating Modality appears to be an innovative and could be a model for other WHO advisory committees.** The NOM's intended features—fewer formal meetings, greater economy in a financial and WHO Staff resource-constrained environment, use of new communication technologies, more flexibility and responsiveness to WHO needs and tasking of Members to other groups—are creative and resourceful and could be a model for other similar WHO advisory groups. Regardless, it is clearly too early to evaluate the effectiveness, efficiency or outcomes related to the NOM's features.

6. Recommendations

The following recommendations are focused on strengthening and optimizing the New Operating Modality, to better clarify and improve IPAC's contribution to the field, in the context of the current realities or assumptions, which include:

- Benchmarking and assessing the NOM is both a start- and end-point for the next 2-year time period for the BMGF grant cycle. It is recommended that IPAC be evaluated again after this two-year time-period. Evaluation benchmarks are suggested in Section 7;
- IPAC meetings will occur every 12-18 months;
- Limited resources (financial and Secretariat support) preclude returning to more frequent meetings and providing more intensive Secretariat support;
- There is a demonstrated need for more evident outcomes of IPAC and for more focused, strategic discussions to achieve them;

- There is a need for IPAC to be flexible, timely and responsive in addressing immunization practices issues;
- In consideration of the above, WHO will continue to task IPAC Members to SAGE working groups and various other committees and working groups on an as-needed basis; and
- The TechNet Forum will be used as a major mode of communication for IPAC discussions and interaction.

The following six recommendations are offered for consideration:

1. Maximize IPAC's value and outcomes

To maximize IPAC's value to WHO and the immunization community in the area of immunization practices, there is a need to transition IPAC to an operational structure that optimizes the following features:

- Is more formalized and with a higher profile and clarity of purpose within WHO, with SAGE, with other WHO-sponsored groups, and other immunization partners;
- Is more agile and responsive to current WHO needs;
- Is less resource-intensive and more virtual, taking maximum advantage of available technologies; and
- Has strengthened regional and country-level immunizations practices expertise and support.

2. Develop 2-year IPAC strategic plan

With the collaboration of the IPAC Chair and Members, WHO should lead development of a 2-year IPAC strategic plan that details, for example, the Committee's objectives, meeting plan, provisional meeting agendas and workplan. It is recommended that WHO lead development of the strategic plan as IPAC's mandate is to be responsive to WHO IVB Director's needs and therefore the IVB's priorities. The plan should be dynamic, flexible and incorporate performance measures, as suggested in Recommendation 7.

3. Clarify and better communicate IPAC purpose, role, organizational relationships and achievements

WHO should clarify, document, and make senior-level statements on IPAC's purpose, organizational relationships, lines of communication, and terms of reference with for example, SAGE, VPPAG, PSPQ, and IVIR-AC. Of particular concern are the perceptions of IPAC's difficult relationship with SAGE. It should be noted that IPAC's principal mandate is to support the WHO IVB Director, not SAGE. In addition, recent WHO IVB Director

guidance to IPAC Members advised that approximately 80% of IPAC work address operational matters, with recommendations made to the WHO IVB Director directly, and just 20% of IPAC work be devoted to strategic matters through SAGE before consideration and adoption by the WHO IVB Director. Therefore, steps to improve IPAC's relationship with SAGE should be done only insofar as strengthen IPAC's advice to the WHO IVB Director.

While IPAC's work is recognized as critical and highly valued, its role niche in the immunization community is seen as mundane. WHO should define, articulate and communicate the IPAC niche, e.g., "marketing" of IPAC at various levels, communicating how IPAC functions, what it does and does not do, identifying areas of expertise among IPAC member and how various groups can access IPAC expertise through WHO.

Furthermore, WHO should take steps to strengthen documentation and communication on outcomes of IPAC work/recommendations, especially successes, and establish future planning for documentation and communication. This should be done internally with WHO leadership, amongst IPAC Members, external partners and the broader immunization community. WHO may consider developing an "IPAC Contributions (To Date)" report.

4. Improve and support tasking/assignments of IPAC Members to external workgroups

WHO should take steps to improve support to IPAC Members tasked to SAGE workgroups, VPPAG, PSPQ, IVIR-AC, or others:

- Providing tasked Members with an agreed-upon analytic frame for ad hoc assignees
- Establishing a process for assignees to quickly vet issues with other IPAC Members and developing an "IPAC position"
- Strengthening communication mechanisms between tasked Members and other IPAC Members; and
- Raising the visibility, promotion of assignments, especially within SAGE.

5. Better orient and recruit new IPAC Members

It is recommended that a support system be developed for new IPAC Members, for example:

- Development of a more formal orientation package and process;
- Assignment of mentors to new Members, either formal or informal; and

- For those new Members for whom WHO may find it appropriate, engaging immunization Staff from the new member's associated WHO Regional Office or WHO Country Office to orientation and support during the member's tenure.

It is also recommended that IPAC broaden and regionalize IPAC Membership to include more country-level field and implementation expertise. This can be done by developing a long-range recruitment strategy, actively identifying gaps and future needs, engaging WHO Country and Regional Offices in the identification of, and support for, potential candidates and supporting potential professional development activities for current IPAC Members, such as supporting attendance at WHO immunization conferences and meetings at global, regional and country levels. Of primary importance is for IPAC to engage with WHO Staff and other regional and country partners to gain a better understanding of some of the programmatic implementation challenges that are faced at the country level. This engagement will lead to further identifying IPAC's gaps and future needs.

6. Bolster IPAC internal communications

There should be strengthened training and promotion of the TechNet Forum for IPAC Committee communications and perhaps more intensive training for less technologically proficient Members. However, there should be consideration and accommodation for Members who may not have consistent Internet access. WHO may consider expanding the current WHO IPAC webpage or developing a "spin-off" to a more publicly accessible/friendly IPAC resource webpage that would provide expanded communication of IPAC work, "one-stop" shopping for vaccine practices information and resources and a portal for the TechNet Forum.

7. Identify performance benchmarks and evaluate IPAC in two years

As stated previously, it is recommended that IPAC outcomes and performance should be assessed, especially as part of a strategic plan. Benchmarks should be identified and based on both WHO's needs for expert advice on immunization practices and established measures for the performance of IPAC.

It is also recommended that IPAC be evaluated again within the next two years, with a particular focus on the effectiveness, efficiency and outcomes related to the New Operating Modality, as well as its innovative features. It is recommended that WHO use this evaluation's survey results as a starting point, with emphasis on the following benchmarks:

a. Is IPAC's mandate clear?

b. Do you receive adequate support and responsiveness by the Secretariat to facilitate your role as an IPAC member?
c. In your opinion, does IPAC have adequate resources to fulfill its mandate?
d. Is IPAC positioned to achieve its outcomes and contribute globally to global immunization practices (matrix of responses)?
e. Is IPAC's relationship to Strategic Advisory Group of Experts on Immunization (SAGE) and other advisory groups clear?
f. Do IPAC's relationships with SAGE enhance IPAC's ability to achieve its mandate?
g. Does IPAC have the necessary expertise on the committee to fulfill its mandate?
h. Have you received adequate information to fully contribute as an IPAC member?
i. Do you utilize the IPAC group on the TechNet site fully?
j. Does IPAC document and disseminate decisions and recommendations as needed?
k. Is IPAC effective in supporting the goals of Global Immunization Vision and Strategy (GIVS) and Global Vaccine Action Plan (GVAP)?
l. Are IPAC programmatic recommendations incorporated into global policies?
m. [Ratings on IPAC meetings organization, usefulness, effectiveness and efficiency]
n. In your opinion, is the frequency of IPAC meetings (i.e., every 18 months) adequate to achieve the intended outcomes/fulfill IPAC's mandate?
o. The 'new modality' is intended to improve IPAC's operational efficiency. Specifically, it aims to increase member engagement, improve IPAC's ability to address issues as they emerge/peak, and facilitate IPAC's connection with Members when needed. In your opinion has the new modality improved IPAC's operational efficiency in these ways?
p. [Ratings on IPAC's overall effectiveness, efficiency, usefulness and quality of recommendations]

Overall, this evaluation found that IPAC's past advice to WHO and recommendations to strengthen and improve the delivery of immunization programmes is widely valued and generally viewed as successes. However, there are several areas for improvement. As it is unquestionably a time of operational transition for the Committee, this evaluation presents WHO with the opportunity to assess and address identified deficiencies or deficits to optimize IPAC's current and future value to WHO and the global immunization community.

ANNEX A: KEY RESOURCES

1. TechNet-21 The Technical Network for Strengthening Immunization Services http://www.technet-21.org/en/
2. World Health Organization. Accessing the programmatic suitability of vaccine candidates for WHO prequalification (Revision 2014). http://apps.who.int/iris/bitstream/10665/148168/1/WHO_IVB_14.10_eng.pdf?ua=1
3. World Health Organization. GIVS Goals (2015) http://www.who.int/immunization/givs/goals/en/
4. World Health Organization. Global Vaccine Action Plan 2011-2020 (2011) http://www.who.int/entity/immunization/global_vaccine_action_plan/SAGE_DoV_GVAP_Assessment_report_2014_English.pdf?ua=1
5. World Health Organization. GVAP 2014 Secretariat Report (2014) http://www.who.int/immunization/global_vaccine_action_plan/gvap_Secretariat_report_2014.pdf?ua=1
6. World Health Organization. Immunization and vaccines related implementation research advisory committee (IVIR-AC) Terms of reference (2011) http://www.who.int/immunization/research/committees/ivir_ac/en/
7. World Health Organization. Immunization Practices Advisory Committee (IPAC) (2015) http://www.who.int/immunization/programmes_systems/policies_strategies/ipac/en/
8. World Health Organization. Immunization Supply Chain and Logistics: A neglected but essential system for national immunization programmes. A Call-to-Action for national programmes and the global community by the WHO Immunization Practices Advisory Committee (2014) http://www.who.int/immunization/call-to-action_ipac-iscl.pdf
9. World Health Organization. Immunization Practices Advisory Committee (IPAC) CALL FOR NOMINATIONS CLOSING DATE: 15 September 2015 http://www.who.int/immunization/IPAC_call_nominations_Aug2015.pdf?ua=1
10. World Health Organization. IPAC Declaration of Interests (2014) http://www.who.int/immunization/programmes_systems/policies_strategies/DOI_June_2014.pdf
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12. World Health Organization. IPAC Meeting Report 4-5 November 2010 (2010) http://www.who.int/entity/immunization/policy/committees/IPAC_2010_November_report.pdf
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14. World Health Organization. IPAC Meeting Report 28-29 September 2011 (2011) http://www.who.int/entity/immunization/policy/committees/IPAC_2011_September_report.pdf

15. World Health Organization. IPAC Meeting Report 17-18 April 2012 (2012) http://www.who.int/entity/immunization/sage/meetings/2012/november/IPAC_2012April report_FINAL.pdf
16. World Health Organization. IPAC Meeting Report 2-3 October 2012 (2012) http://www.who.int/entity/immunization/policy/committees/IPAC_2012_October_report.pdf
17. World Health Organization. IPAC Meeting Report 4-5 April 2013 (2103) http://www.who.int/entity/immunization/policy/committees/IPAC_Report_April-2013.pdf
18. World Health Organization. IPAC Meeting Report 16-17 October 2013 (2013) http://www.who.int/entity/immunization/programmes_systems/policies_strategies/IPAC_2013_October_report.pdf
19. World Health Organization. IPAC Meeting Report 11-12 June 2014 (2014) http://www.who.int/entity/immunization/programmes_systems/policies_strategies/ipac_2014_june_report.pdf
20. World Health Organization. IPAC terms of reference February 2013 (2013) http://www.who.int/entity/immunization/policy/committees/IPAC_Terms-of-References_2013.pdf?ua=1
21. World Health Organization. National advisory committees on immunization (2015) http://www.who.int/immunization/sage/national_advisory_committees/en/
22. World Health Organization. SAGE terms of reference (2013) http://www.who.int/immunization/sage/Full_SAGE_TORs.pdf
23. World Health Organization. TLAC Report to SAGE October 2009 (2009) http://www.who.int/immunization/sage/TLAC-Summary-SAGE-2009Oct27.pdf
24. World Health Organization. 2014 Assessment Report of the Global Vaccine Action Plan. (2014) http://www.who.int/immunization/global_vaccine_action_plan/SAGE_DoV_GVAP_Assessment_report_2014_English.pdf
25. World Health Organization. Use of MenAfriVac® (meningitis A vaccine) in a controlled temperature chain (CTC) during campaigns: Guidance for immunization programme decision-makers and managers. WHO/IVB/13.04 (2013) http://apps.who.int/iris/bitstream/10665/86018/1/WHO_IVB_13.04_eng.pdf
26. World Health Organization. VPPAG terms of reference (2015) http://www.who.int/immunization/policy/committees/VPPAG_terms_of_reference.pdf?ua=1
27. World Health Organization. WHO Expert committee on biological standards (ECBS) (2015) http://www.who.int/biologicals/WHO_ECBS/en/
28. Gavi. Gavi's Mission. (2015) http://www.gavi.org/about/mission/
29. National Immunization Technical Advisory Group (NITAG). Resource Centre. (2015) http://www.nitag-resource.org/

ANNEX B: LIST OF ALL POTENTIAL INTERVIEWEES/ONLINE SURVEY PARTICIPANTS (Attached)

ANNEX C: IPAC MEMBERSHIP HISTORY

Member	Affiliation	Start of term	End of Term or Anticipated End of Term
Kwadwo Odei **ANTWI-AGYEI**	Disease Control and Prevention Department, National Health Service, Ghana	2013	2016
Robin **BIELLIK**	Independent Consultant	2010	2016
David **BROWN**	Independent Consultant	2015	2018
Xavier **BOSCH-CAPBLANCH**	Medical Doctor, Swiss Tropical and Public Health Institute, Switzerland	2010	2014
Craig **BURGESS**	John Snow, Inc, Immunization Center, United States	2015	2018
Jonathan S. **COLTON**	Georgia Institute of Technology, School of Mechanical Engineering, United States	2011	2016
Shelley **DEEKS**	Public Health Ontario, Dalla Lana School of Public Health, University of Toronto, Canada	2010	2015*
François **GASSE**	Independent consultant	2010	2017
Ian **GEMMILL**	Family Medicine and Public Health Sciences, Queen's University, Canada	2015	2018
Brad **GESSNER**	Agence de Medecine Preventive, France	2015	2018
Najwa **KHURI-BULOS**	Professor and Division Head Pediatrics and Infectious Disease, Jordan University Hospital	2010	2014
Folake **KIO-OLAYINKA**	Maternal and Child Health Programme Manager, USAID, Nigeria	2010	2013
Sanath **LAMABADUSURIYA**	Professor of Paediatrics, University of Colombo	2010	2012

Member	Affiliation	Start of term	End of Term or Anticipated End of Term
Christopher **MORGAN** *(Chairperson)*	Burnet Institute, Vaccines and Immunization, Australia	2011	2016
Amani **MUSTAFA**	Independent Consultant	2015	2018
Pieter **NEELS**	Independent Consultant	2010	2011
Jean-Marc **OLIVE**	Independent Consultant	2011	2017
Adelaide **SHEARLEY**	USAID, Maternal and Child Health Integrated Program (MCHIP), Zimbabwe	2015	2018
Jane **SOEPARDI**	Director of Child Health, Ministry of Health, Indonesia	2010	2012
Robert **STEINGLASS**	John Snow, Inc Immunization Center, United States	2010	2015*
Pierre **VAN DAMME**	Professor of Vaccinology and Infectious Diseases, University of Antwerp, Belgium	2010	2011
Carla **VIZZOTTI**	Immunization Programme, National Ministry of Health, Argentina	2013	2016

** must step off Committee*