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Short communication

Supporting National Immunization Technical Advisory Groups in the WHO European Region in developing national COVID-19 vaccination recommendations through online communication platform



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ABSTRACT

National Immunization Technical Advisory Groups are groups of multi-disciplinary experts that provide scientific advice to policy makers to enable them to make informed immunization policy and programme decisions. NITAGs faced challenges using their routine approach to develop recommendations for COVID-19 vaccines during the pandemic. In response, the WHO Regional Office for Europe (Regional Office), with the support of the Robert Koch Institute, developed an innovative approach of a series of webinars, provision of materials, and remote technical assistance to address these challenges. Polls conducted during webinars were used to tailor future webinars and evaluate the effectiveness of these interventions. According to poll results, 76% of participants found the webinars and resources shared very useful in their work on COVID-19 vaccination. The Regional Office plans to build further upon the scope of online communication and establish a regional online platform for NITAGs to further support NITAGs and build capacity.

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1. Introduction

The COVID-19 pandemic is unprecedented and has exacted an enormous toll on individuals, families, communities and societies around the world. In April 2021, the WHO European Region (the Region) surpassed 1 million confirmed COVID-19 deaths; 1.6 million new cases were reported every week [1]. Vaccines against COVID-19 offer hope in containing the pandemic, protecting health

care systems, saving lives and restoring global economies. Vaccine availability is limited as manufacturing of first vaccines reach full capacity and additional vaccines come to market. As part of defining an appropriate national strategy for COVID-19 vaccination, governments were therefore required to make decisions on the most efficient use of the limited vaccine supply to reduce infections, prevent severe and fatal disease and protect essential services.

National Immunization Technical Advisory Groups (NITAGs) play an important role in enabling ministries of health (MoH) and governments to make evidence-informed decisions by providing scientific advice [2,3]. NITAG's evidence-based recommendations increase the credibility of MoH or government decisions, and thereby acceptance by health care professionals and the public [4,5].

In late 2020, NITAGs faced challenges using their routine approach to develop recommendations for COVID-19 vaccines

Abbreviations: WHO, World Health Organization; Region, WHO Region for Europe; NITAG, National Immunization Technical Advisory Group; MoH, Ministry of Health; Regional Office, WHO Regional Office for Europe; ETAGE, European Technical Advisory Group of Experts; SAGE, Strategic Advisory Group of Experts on Immunization; NIP, National Immunization Programme; SYSVAC, global registry of systematic review on vaccination; GACVS, Global Advisory Committee on Vaccine Safety; HI, High Income; UMI, Upper Middle Income; LMI, Lower Middle Income; LI, Low Income; GNN, Global NITAG Network.

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due to the lack of evidence on vaccine product characteristics, including data on safety and efficacy, as well as insufficient data on disease epidemiology. In addition, NITAGs struggled to stay up-to-date on rapidly evolving information about COVID-19 disease, risk factors for developing severe disease and death and the development of multiple vaccines with different profiles and new technologies. This struggle of NITAGs was compounded by a lack of professional networking, usually done through in-person meetings, which could not be held due to the pandemic. In addition, some Member States had an extremely short timeframe between vaccine licensure and rollout, which forced NITAGs to assess available evidence in parallel to national or regional regulators based on partially published or evolving data.

The WHO Regional Office for Europe (Regional Office) has been providing constant support to newly established NITAGs to improve their functioning and ability to make evidence-based recommendations. The Regional Office conducted regional trainings, provided support to NITAGs in adopting a systematic approach for recommendation-making, and facilitated peer-to-peer learning and collaboration between NITAGs and the European Technical Advisory Group of Experts on Immunization (ETAGE) and the Strategic Advisory Technical Group of Experts on Immunization (SAGE) [6].

The Regional Office developed an innovative approach to address challenges posed by the COVID-19 pandemic and to support NITAGs in making recommendations on COVID-19 vaccination and continue building the capacity of NITAGs in the Region within the limitations of the COVID-19 pandemic environment.

2. Description of the NITAG support

Considering the scope of the use of the available technology, the Regional Office started new online communication channels (webinars) and regular e-mail correspondence to establish an effective two-way communication with NITAGs. The Regional Office conducted a series of webinars to provide updated information and guidance on COVID-19 vaccines and vaccination, share Member States' experiences and challenges in developing recommendations, and identify NITAG needs with regards to developing national COVID-19 vaccination recommendations to allow WHO and partners to provide appropriate support. Beginning in October 2020, the Regional Office, supported by the Robert Koch Institute within the domain of the ongoing joint project to strengthen the capacity of NITAGs of middle-income countries in the Region, conducted webinars every 3–4 weeks for NITAGs, National Immunization Programme (NIP) Managers and other national stakeholders from the 53 Member States of the Region, representatives of WHO country offices and WHO national and international partners. The webinar topics are outlined in Table 1. The focus of the webinars was to facilitate dissemination and enhance the understanding of recommendations made by WHO SAGE and ETAGE on COVID-19 vaccination and raise awareness on evolving data on COVID-19 vaccines in pipeline.

Furthermore, resources for NITAGs to use when developing recommendations were presented and specific guidance on how to adopt regional and global recommendations and how to develop recommendations using a systematic approach were given. Member States had the opportunity to share their experiences on developing national recommendations by their NITAG and rolling out vaccination campaigns and to pose questions to leading national and international experts.

The Regional Office undertook efforts to ensure that all parties interested and involved in the development of national recommendations on COVID-19 vaccination had an opportunity to participate in these webinars. A comprehensive list of national stakeholders

and WHO and partner organizations' staff was developed and used to send out invitations to participate in the webinars. To reduce any bottlenecks for interested parties to participate, the webinars did not require pre-registration and country participants were encouraged to forward webinar invitations to relevant colleagues and counterparts involved in the development of recommendations on COVID-19 vaccination in their country. The list was updated after each webinar to add new participants. In countries with slow internet connection, national counterparts were invited to attend the webinars from WHO country offices. The number of people and Member States participating during each webinar are provided in Table 1. National stakeholders from 50 out of 53 (94%) Member States participated in at least one webinar and 24 out of 53 (45%) Member States participated in all five webinars conducted for all Member States. Most participants (approximately 32%) were NITAG chairs, members, and their secretariats and approximately 15% of participants were MoH officials, members of COVID-19 task forces and working groups and NIP Managers. The remaining participants were representatives of national public health agencies and institutes, as well as WHO staff and representatives of national and international partners.

The webinars were conducted in English and Russian languages with simultaneous interpretation and presentation slides in both languages were shared with all people invited to the webinars. The slides were disseminated in editable format to facilitate translation into local languages.

Webinar participants were encouraged to submit questions during and after the webinars. The Regional Office, together with experts who presented during the webinars and the WHO Collaborating Center for Vaccine Safety, provided detailed responses to questions and distributed them in writing to all participants as follow-up to the meetings. The answers to the most common questions were made available in different formats (video, text, podcast) and languages (English, Russian, Spanish) at a WHO Collaborating Center for Vaccine Safety website on COVID-19 vaccines and vaccination¹.

In addition to the webinars, the Regional Office provided regular updates on available information and resources on COVID-19 vaccines to all participants invited to the webinars through e-mail correspondence. These updates included webinar materials and new and updated WHO guidelines and documents in both English and Russian languages.

The Regional Office provided direct technical support (remotely) to ten NITAGs who requested assistance including discussion on WHO recommendations on prioritization of target groups, providing additional data and information, and providing feedback on recommendations drafted for NITAG deliberation.

2.1. Webinar follow-up and impact

The Regional Office conducted polls during the November, December 2020 and March 2021 webinars to monitor Member States' progress in developing NITAG recommendations on COVID-19 vaccination strategies and learn about NITAGs' challenges and needs. The polls allowed participants to provide feedback on how the Regional Office could further support NITAGs in developing COVID-19 vaccination recommendations, on topics to be discussed at future webinars, how the webinar format could be improved, and the usefulness of the webinar topics and materials. Selected results from these polls can be seen in Figs. 1–3.

During the November 2020 meeting, participants were asked about the main challenges experienced when developing recommendations (Fig. 1). Most participating Member States reported

¹ www.covid19infovaccines.com

Table 1

Topics, number of participants, and number of Member States by income level participating in webinars on COVID-19 vaccination for National Immunization Technical Advisory Groups, organized by the WHO Regional Office for Europe.

Date	Topics	Number of participating Member States ¹ (number of participants) ²	Income level of participating Member States ³			
			HI	UMI	LMI	LI
8 & 9 Oct 2020 (for UMI and LMI Members States)	<ul style="list-style-type: none"> •SAGE Roadmap for prioritizing uses of COVID-19 vaccines in the context of limited supply •Recommendations developed by NITAGs on target groups for COVID-19 vaccination (United Kingdom, United States) 	15 (108)	0	10	3	0
29 Oct 2020 (for HI Member States)	<ul style="list-style-type: none"> •SAGE Roadmap for prioritizing uses of COVID-19 vaccines in the context of limited supply •Recommendations developed by NITAGs on prioritization of target groups for COVID-19 vaccination (Germany, Belgium, France) •Market authorization of COVID-19 vaccines in the EU region: methodology and process of the European Medicines Agency •SYSVAC2: Global registry of systematic reviews on vaccination and online course 	21 (77)	21	0	0	0
19 Nov 2020 ⁴ (for all Members States)	<ul style="list-style-type: none"> •ETAGE recommendation on regional adaptation of SAGE Roadmap for prioritizing uses of COVID-19 vaccines •COVID-19 vaccines in pipeline 	43 (226)	25	13	4	1
10 Dec 2020 ⁴ (for all Members States)	<ul style="list-style-type: none"> •COVID-19 vaccines in pipeline •SAGE guidance for the development of evidence-based vaccination related recommendations •Results from umbrella review on risk factors for severe/fatal COVID-19 	46 (166)	27	14	4	1
19 Jan 2021 (for all Members States)	<ul style="list-style-type: none"> •SAGE recommendation on Pfizer-BioNTech COVID-19 vaccine •Preliminary data from post-marketing surveillance on adverse events following immunization from the European Medicines Agency •Country experiences launching COVID-19 vaccines (Croatia, Israel, United Kingdom) 	48 (220)	28	14	5	1
18 Feb 2021 (for all Members States)	<ul style="list-style-type: none"> •COVID-19 vaccine in phase 3 trials •SAGE recommendation on Moderna and AstraZeneca COVID-19 vaccine •Country experiences launching COVID-19 vaccines (Germany, Denmark, Romania) •Developing (interim) recommendation for COVID-19 vaccines – process and resources from WHO Europe 	43 (180 ⁵)	26	12	4	1
25 Mar 2021 ⁴ (for all Members States)	<ul style="list-style-type: none"> •SAGE recommendation on Janssen COVID-19 vaccine •Statement of the WHO GACVS on safety signals related to Astra Zeneca COVID-19 vaccine •SYSVAC2: Global registry of systematic reviews on vaccination and online course 	45 (150)	26	14	4	1

¹ According to information provided by participants in their Zoom Participant Name or in Zoom meeting report. The actual number of participating countries may be higher because not all participants indicated their country (approximately 10% of participants of each webinar did not indicate their country).

² According to unique connections captured by Zoom. The actual number of participants was higher because in some countries, experts gathered in meeting rooms and used one Zoom connection to participate in webinars.

³ Based on the World Bank country classification by income level: 2020–2021 (<https://datahelpdesk.worldbank.org/knowledgebase/articles/378834-how-does-the-world-bank-classify-countries>) (Accessed 23 August 2021)

⁴ Poll was conducted during this webinar

⁵ The representatives of WHO Country Office, South Africa from the WHO African Region participated in this webinar

Abbreviations: SAGE, Strategic Advisory Group of Experts on Immunization; NITAG, National Immunization Technical Advisory Group; SYSVAC, global registry of systematic review on vaccination; ETAGE, European Technical Advisory Group of Experts; WHO, World Health Organization; GACVS, Global Advisory Committee on Vaccine Safety; HI, High Income; UMI, Upper Middle Income; LMI, Lower Middle Income; LI, Low Income.

lack of evidence on COVID-19 vaccines (92%) and 54% of participating Member States experienced lack of time to work on the development of COVID-19 vaccination recommendations.

To evaluate the usefulness of the webinars and their impact on Member States, the Regional Office asked participants during the 25 March 2021 webinar to indicate the topics of past webinars which were most useful to them and to evaluate the webinars and the materials shared. Most participants found the presentation of SAGE recommendations on BioNTech-Pfizer and AstraZeneca COVID-19 vaccines, the European Medicines Agency preliminary data from post-marketed surveillance on adverse events following immunization and country experiences on recommendations on the prioritization of target groups for COVID-19 vaccination and implementation of COVID-19 vaccination useful (Fig. 2).

The results of polls conducted during the November and December 2020 meetings showed Member States' progress in developing national recommendations on COVID-19 vaccination strategy, to which regional webinars may have contributed. During the November meeting 8 of 32 (25%) participating Member States

reported developing national strategies; during the December meeting 16 of 32 (50%) participating Member States reported that they had national recommendations in place, including 17 out of the 29 Member States that had participated in the previous poll.

76% of participants found the webinars and resources shared very useful in their work on COVID-19 vaccination (Fig. 3). Furthermore, 25/29 (86%) of participants reported they would be interested in future Regional webinars on different topics, even when the COVID-19 pandemic is under control and 3/29 (10%) reported they would be interested in future webinars if they were in addition to in-person meetings.

2.2. Products and tools developed

Addressing the expressed challenges, the Regional Office developed an Operational guidance on evidence-based decision-making process for developing national COVID-19 vaccination strategies [7] to provide guidance to NITAGs in developing recommendations on vaccination objectives and prioritization of target groups for

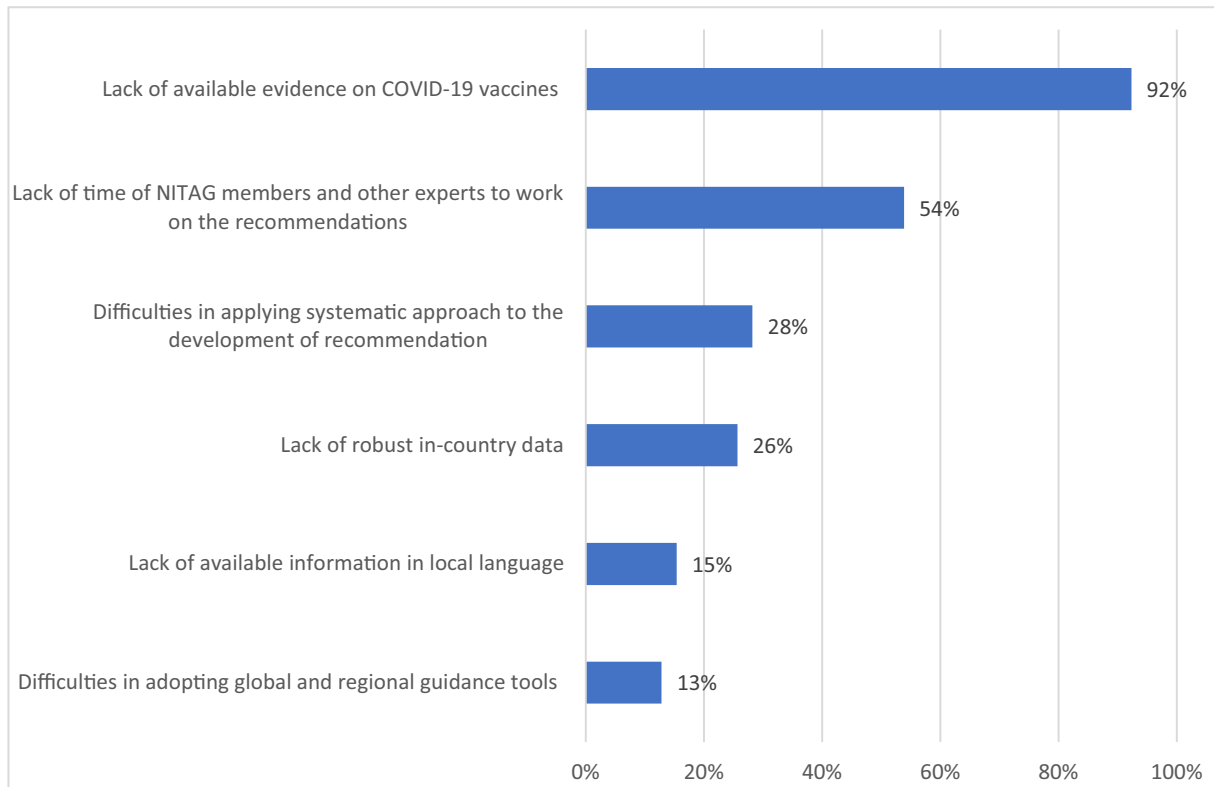


Fig. 1. Outline of challenges indicated by 39 Member States participating in poll conducted during WHO European Regional webinar on Preparedness for COVID-19 Vaccination held on 19 November 2020 (% of Member States).

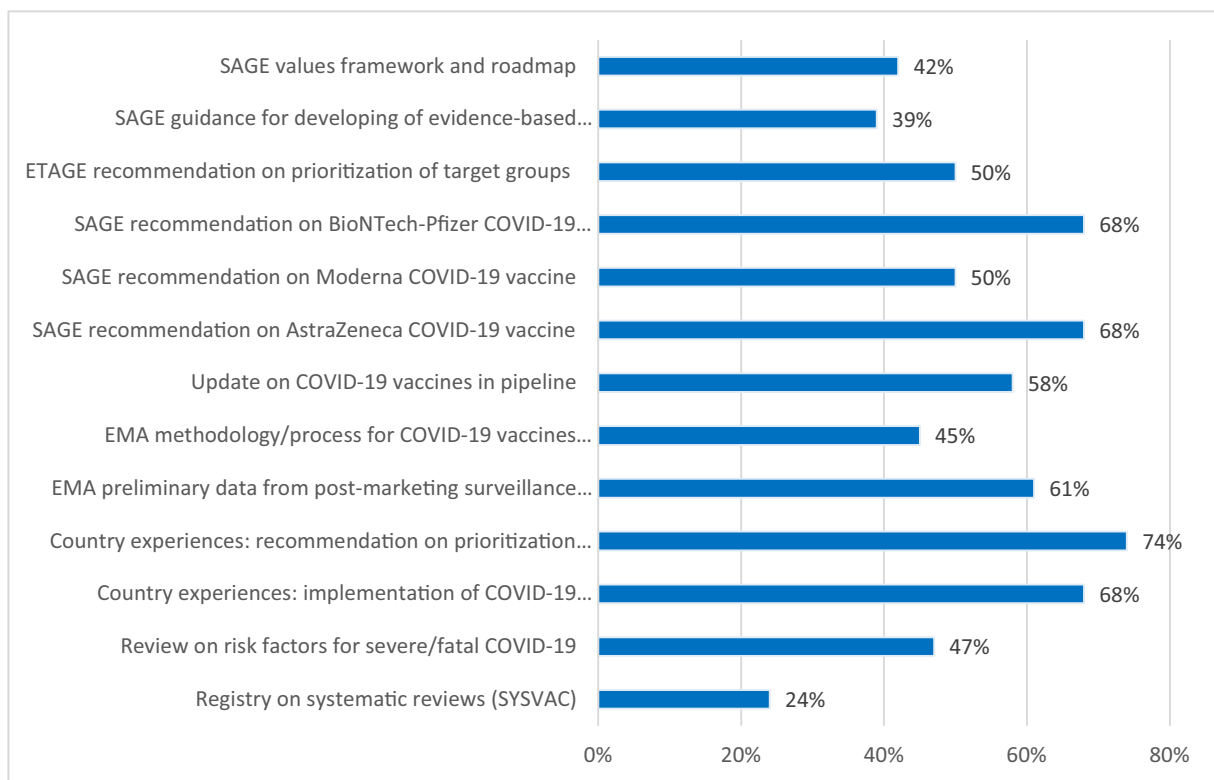


Fig. 2. Webinar topics indicated as useful for developing recommendations on COVID-19 vaccination by 38 participants who took part in poll conducted during WHO European Regional webinar on COVID-19 Vaccination held on 25 March 2021 (% of participants). Abbreviations: AEFI, adverse events following immunization; EMA, European Medicines Agency; ETAGE, European Technical Advisory Group of Experts on Immunization; SAGE, Strategic Advisory Group of Experts on Immunization; SYSVAC, global registry of systematic reviews on vaccination.

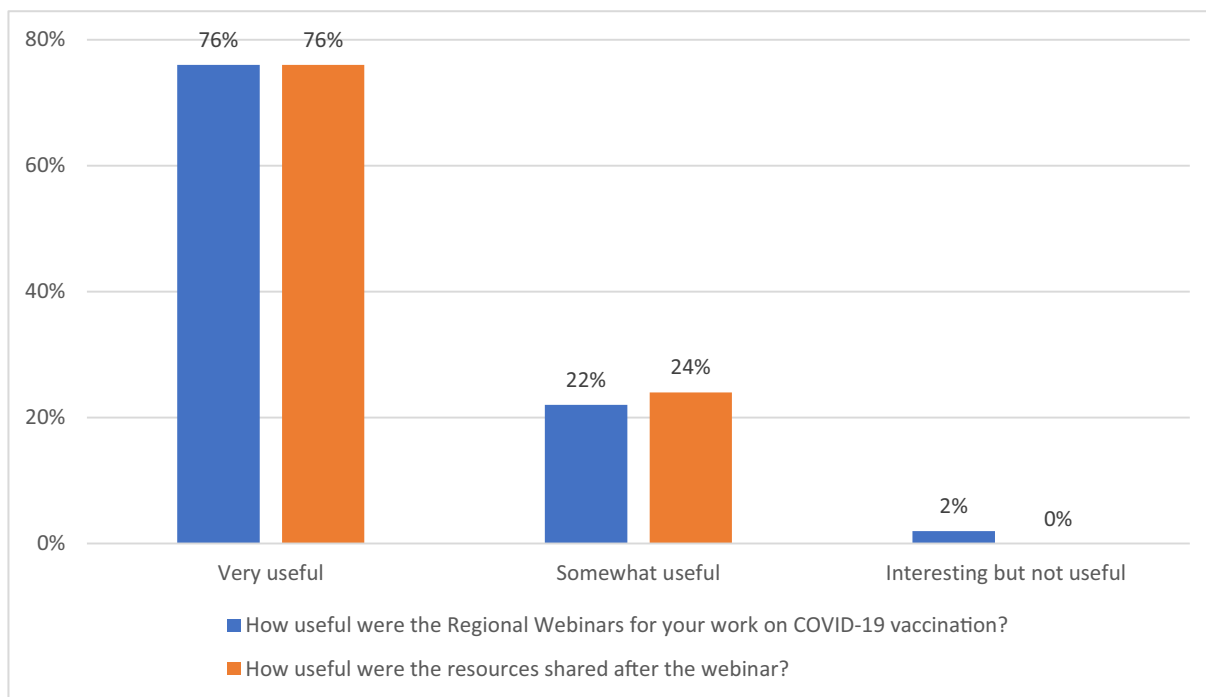


Fig. 3. Participant rating of usefulness of Regional webinars on COVID-19 vaccination and resources shared after the webinar based on responses from 41 participants during WHO European Regional webinar on COVID-19 Vaccination held on 25 March 2021 (% of participants).

COVID-19 vaccination by using their routine approach or by adapting SAGE and ETAGE advice. Furthermore, the Regional Office is developing a guidance tool to support recently established NITAGs in introducing a systematic evidence-to-recommendation approach, adapted to their level of maturity, in their process of developing recommendations on vaccines.

2.3. NITAG participation in other meetings

These regular contacts between the Regional Office and NITAGs in the Region helped to quickly disseminate information and facilitate participation of NITAGs in global online meetings, including SAGE and Global NITAG Network (GNN) webinars [8,9] and WHO regional webinars on monitoring COVID-19 vaccine uptake, effectiveness, impact and vaccine safety. NITAGs from 33 Member States participated in SAGE meetings, which were held from 5 to 7 October 2020, on 5 January 2021 and on 8 February 2021. In the past, NITAG representatives from two Member States attended each SAGE in-person meeting.

3. Discussion and future plans

This new approach of regular and timely two-way communication helped NITAGs to increase their knowledge and access necessary information, and ultimately develop national recommendations on COVID-19 vaccination. This approach helped the Regional Office tailor support to NITAGs in the challenging COVID-19 environment by using questions, feedback, and requests for direct technical support received during and between webinars, and though poll results. This led to a tailored selection of webinar topics, improvement of webinars’ format and development of a guidance tool on using a systematic process to develop recommendations on vaccines.

The experience of using webinars to convey important information will change the future work of the Regional Office. Although virtual meetings will not completely replace in-person meetings and trainings, they do provide new opportunities. Virtual meetings

will allow for more frequent communication, timely distribution of information and guidelines, and easier participation of highly qualified international experts who are not always available for in-person meetings. Furthermore, this format allows online trainings which can include all members of NITAGs and their secretariats as well as varied interested colleagues from MoH, public health institutes and others and ultimately may demonstrate more value for money than organizing in-person meetings. This approach may also facilitate participation of NITAG members in other country’s NITAG meetings as observers (i.e., peer-to-peer learning).

Based on lessons learned and demonstrated impact, the Regional Office plans to build further upon the scope of online communication and establish a regional online platform for NITAGs in the Region, which will foster opportunities for enhanced collaboration. Such a platform could also allow NITAGs to share documents and information, arrange virtual meetings, and provide a platform for peer-to-peer technical support.

CRedit authorship contribution statement

Liudmila Mosina: Conceptualization, Methodology, Writing – original draft, Project administration. **Wiebe Külper-Schiek:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Project administration. **Lisa Jacques-Carroll:** Writing – original draft, Formal analysis, Visualization. **Andrew Earnshaw:** Methodology, Writing – review & editing. **Thomas Harder:** Methodology, Writing – review & editing. **Federico Martín-Torres:** Methodology, Writing – review & editing. **Annelies Wilder-Smith:** Methodology, Writing – review & editing. **Ole Wichmann:** Methodology, Writing – review & editing. **Siddhartha Sankar Datta:** Conceptualization, Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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