

Defining disease burden and making decisions on seasonal influenza vaccination

**Report of a WHO Regional Office for Europe meeting
Tbilisi, Georgia, 25–29 August 2014**



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Preface

During a five-day meeting held in Tbilisi, Georgia, 25–29 August 2014, the WHO Regional Office for Europe (WHO/Europe) brought together more than 35 national influenza surveillance personnel, national immunization programme managers and chairs and secretaries of national immunization technical advisory groups from seven WHO European Region Member States (Annex 1).

Currently very few WHO Member States in the European Region achieve the WHO targets for seasonal influenza vaccine uptake among at-risk groups. In order to promote increased vaccine availability and uptake, plenary and workshop-training sessions were held to deepen understanding of the requirements and decision-making processes involved in introducing or expanding seasonal influenza vaccination, including the need to better assess the burden of influenza disease. The specific meeting objectives were:

- to strengthen influenza surveillance and disease burden estimation by training national surveillance personnel in the use of the *WHO Manual for Estimating Disease Burden Associated with Seasonal Influenza in a Population*;
- to discuss the key aspects and criteria to be addressed when developing evidence-based recommendations on influenza vaccination policy, and to identify sources of evidence;
- to discuss the process and factors to be considered when introducing or expanding seasonal influenza vaccination;
- to undertake working group exercises on the key programmatic and other aspects of developing national seasonal influenza vaccination policy.

The meeting agenda (Annex 2) opened with an intensive three-day workshop-training course on estimating the disease burden associated with influenza. This was followed by plenary presentations and discussions on the broader issue of developing evidence-based recommendations and on the considerations that must be taken into account when introducing or expanding national seasonal influenza vaccination. A closing session was then devoted to an exercise in which three parallel working groups reviewed and evaluated the programmatic and other aspects of making recommendations on influenza vaccination for consideration by national policy decision-makers in their respective countries.

Taken together, the range of workshop training and other meeting activities provided an important opportunity for participants to reach and commit to a common understanding of the processes required to introduce or expand seasonal influenza vaccination, to learn from the experiences of other countries and to share best practices.

Simultaneous Russian/English translation was provided throughout the meeting.

1. Introduction: role of national technical advisory bodies on immunization

To promote and strengthen evidence-based decision-making in the areas of immunization policy, norms and practices at national level WHO recommends the establishment of formal national advisory bodies. All countries represented at the meeting¹ had a National

¹ Albania; Armenia; Belarus; Georgia; Kazakhstan; Republic of Moldova; Ukraine.

Immunization Technical Advisory Group (NITAG) in place for this purpose. Working in collaboration with other relevant national agencies and bodies, and operating under formal Terms of Reference, the role of a NITAG is to advise the government on technical issues related to immunization, including vaccine introduction. An independent and well-functioning NITAG has the potential to empower authorities and policy-makers to make evidence-based decisions, resist pressure from interest or lobby groups, increase the credibility of the national immunization programme, and bring a more-comprehensive and cohesive perspective to immunization activities. By 2014, 42 of the 53 countries in the WHO European Region had an established NITAG in place.

Despite the clear benefits they bring and the support of WHO guidance, recommendations and resources (http://www.who.int/immunization/sage/national_advisory_committees/en/), a number of major challenges remain in achieving the universal establishment and effective functioning of NITAGs in the Region. In addition to the 11 countries currently lacking such an advisory body, the composition and functioning of an estimated 40% of established NITAGs do not accord with WHO recommendations in terms of ensuring operational independence from the national influenza programme and Ministry of Health, and the disclosure of conflicts of interest. WHO has now developed a number of basic and advanced criteria for use in assessing both NITAG functionality and impact. The functionality criteria encompass a broad range of legislative, administrative, membership, transparency and performance aspects.

There is a lack of understanding among some NITAGs of the process required to develop evidence-based recommendations. Despite its central importance, burden of disease is one of a range of criteria that must be evaluated when developing nationally relevant and applicable vaccine recommendations. In addition to the epidemiological aspects of burden, a comprehensive approach also requires proper evaluation of a range of vaccine-related, economic and social aspects. In some cases, the absence of a dedicated secretariat and working groups to prepare technical materials for NITAG discussions is being compounded by the lack of a standardized approach for researching and evaluating evidence. Due to language barriers there is also insufficient utilization of the extensive sources of information and support available for these purposes. These include the outputs of the WHO SAGE process and other international entities such as the Supporting Independent Immunization and Vaccine Advisory Committees (SIVAC) Initiative, as well as the documentation produced by established NITAGs in other countries.

It is clear that despite the progress made, significant challenges remain both in establishing and ensuring the independent functioning of NITAGs in many countries and in strengthening understanding of the processes needed to ensure that evidence-based recommendations are developed and properly integrated into national decision-making mechanisms.

2. Improving knowledge of influenza disease burden

Gaps in the knowledge of influenza disease burden exist, particularly a lack of credible global estimates of influenza-associated mortality and hospital burden. Improved understanding is also needed in areas such as the nature and determinants of seasonality, the causes of increased risk among disadvantaged populations, the observed variation in morbidity patterns between countries, the influenza-associated mortality and burden among pregnant women and children. In order to help address these and other gaps WHO, as part of the

implementation of the Pandemic Influenza Preparedness (PIP) Framework, will work to improve global and regional influenza hospitalization burden estimates and SARI burden in risk groups, refine current estimates of global and regional influenza mortality, expand the conducting of economic burden estimates and set up a technical WHO Expert Group to guide and advise upon influenza burden related activities.

Consideration also needs to be given to how national influenza mortality and morbidity estimates can be improved. This will involve deciding upon what approaches should be used to assess burden, and what data would be most persuasive in convincing policy-makers to develop and expand national influenza vaccination policies. At regional level, consideration would also need to be given to how best to geographically focus efforts to better understand burden, including balancing the targeting of areas where nothing was yet known against concerted efforts in countries that could feasibly introduce influenza vaccination in a short time frame.

With increasingly ageing populations in the Region, preventing hospitalization due to influenza will become even more important, particularly given the often serious long-term adverse health outcomes for elderly hospitalized patients. Evaluations of the relative direct and indirect economic burden of influenza and of the cost-benefits of vaccination are also needed, especially in developing and lower-resourced countries where such estimates are generally lacking. Meeting participants were presented with the lessons now emerging following a pilot project in Romania. The ultimate goal of this project will be to estimate the clinical and economic burden of influenza in the country and determine the likely cost-effectiveness of influenza vaccination. Preliminary results also covered emergency attendances in one pilot hospital and their associated financial costs, as well as mortality rates due to various causes during past influenza seasons. Early lessons learnt include the need to take into account the characteristics of the health-care system, and the role of all the different stakeholders and potential sources of information, including a detailed understanding of hospital financing and reimbursement systems. Intended next steps include the finalizing of clinical and economic burden estimates, involving extrapolation to the entire Romanian population and the incorporation of aspects such as work absenteeism, informal costs and the actual costs of general practitioner consultations. Assessment will also be made of the cost-effectiveness of influenza vaccination.

During workshop-training sessions held over the first three days of the meeting, participants were introduced to the WHO *Manual for Estimating Disease Burden Associated with Seasonal Influenza in a Population*. This manual is intended to provide a simple and standardized approach to using sentinel surveillance data to estimate influenza hospitalization rates. Improving the standardization and sharing of data would be an important step important in closing the knowledge gaps highlighted above, addressing the influenza hospitalization burden and allowing national influenza burden estimates to be placed in the context of global and other country estimates, and in the broader perspective of other national disease priorities. The training also helped participants to better analyse and interpret influenza surveillance data from sentinel surveillance sites. This in turn should lead to more-informed public health planning and decision-making, improved targeting of seasonal influenza control programmes, better monitoring of severe disease and influenza virus characteristics, and the strengthening of national pandemic preparedness efforts.

During the three-day workshop, participants considered the sources, quality and suitability of data used for influenza disease burden estimation. Essential data required from sentinel sites

was discussed along with the required characteristics of the data to be used and interpreted. Consideration was also given to determining the influenza disease burden both in the general population and in vulnerable populations, and to ways of improving sentinel surveillance to address current gaps in knowledge. Workshop outcomes included the development of data presentation that allowed for the meaningful comparison of trends over time and between different countries and age groups.

3. Developing evidence-based influenza vaccination recommendations

The process of developing evidence-based recommendations involves a number of discrete steps. The first of these is the framing by the NITAG secretariat or working group of the questions intended to inform recommendations. This is followed by a process of assessing and summarizing the evidence through systematic literature reviews and the reviewing and rating of evidence quality, in particular through an assessment of the risk of bias and confounding, and through the application of the GRADE approach (<http://www.gradeworkinggroup.org/>) which helps rate the quality of data on vaccine safety and effectiveness. Information and data can be generated and obtained both in-country, for example from national ILI/SARI surveillance activities, and from a wide range of published resources. The latter include WHO Vaccine Position Papers (<http://www.who.int/immunization/documents/positionpapers/en/>), which in addition to the main influenza document (<http://www.who.int/wer/2012/wer8747.pdf?ua=1>) also grade the scientific evidence in key research areas; WHO SAGE recommendations; and the published literature. Following systematic evaluations, proposed recommendations with supporting evidence can be presented to the full NITAG for discussion and deliberation prior to their submission to the Ministry of Health. Fig. 1 summarizes the four key aspects and principal criteria that need to be considered as part of any proposed change to national vaccination policy.

Fig. 1. Aspects of evidence-based influenza vaccine policy development

Epidemiology	Vaccine	Economic aspects	Social aspects
<ul style="list-style-type: none"> • Disease burden (incidence, prevalence, mortality) • Specific risk groups • Circulating pathogen (serotypes distribution) 	<ul style="list-style-type: none"> • Efficacy • Effectiveness • Safety • Duration of protection 	<ul style="list-style-type: none"> • Cost of vaccination • Cost of treatment • Cost effectiveness of vaccine 	<ul style="list-style-type: none"> • Vaccine acceptance

Epidemiology

The epidemiological aspects of seasonal influenza disease of greatest interest include the associated overall levels of morbidity and mortality, and the impact of infections among at-risk groups. Historically, most mortality estimates have been based upon models developed for temperate climates with an estimated 200 000–500 000 people dying worldwide each year. However, in addition to substantial variations from year to year, large differences also arise depending upon the underlying cause of death categories used to model influenza-associated mortality. Although pregnant women are generally recognized to be at higher risk of admission to hospital and severe disease, levels of mortality appear to vary widely between countries. Consideration of impact in this group must also encompass any adverse effects on the physical and mental development of the newborn. The elderly are also considered to be at high risk of hospital admission and death, and in the United States adults aged 65 and over account for up to 90% of all influenza-related deaths. Among children, those under two years of age are at the highest risk of hospital admission. Chronic medical conditions associated with an increased risk of adverse outcomes include respiratory conditions, chronic obstructive pulmonary disease, asthma and neurodevelopmental conditions. WHO's influenza vaccination recommendations, which were revised in 2012 on the basis of improved data, also extend to the residents of institutions for the elderly and the disabled along with health care workers. This latter group is viewed as a distinct case for vaccination as the rationale for its inclusion includes additional issues related to the importance of health care personnel as advocates and role models for vaccine acceptance.

Vaccine

Influenza vaccines were introduced in the 1940s and are reformulated annually to remain effective against ever-evolving viruses. Trivalent inactivated influenza vaccines are delivered by injection and consist of the two influenza A strains and one influenza B strain thought most likely to circulate in the upcoming season. Live attenuated influenza vaccines are delivered intranasally except to pregnant women and children under two years of age.

Although most countries have access to influenza vaccine, the number of available doses is low in many low- and middle-income countries. National seasonal influenza vaccination recommendations vary across the WHO European Region with an increasing number of countries recommending the vaccination of pregnant women. In several key groups there is however a low rate of and lack of monitoring of vaccination uptake.

Influenza vaccination has a good safety record and is the most-effective means of preventing influenza, particularly in light of the uncertain effectiveness of non-pharmaceutical interventions such as hand washing, masks and social distancing. However, influenza vaccines are generally less effective compared to other vaccines, and their effectiveness varies both by season and between different age groups. Although vaccine effectiveness estimates obtained in one country may not be transferable to another setting, performing effectiveness studies is expensive and most countries rely upon the available data. Any move to introduce or expand seasonal influenza vaccination must be undertaken in conjunction with robust systems for the surveillance of adverse events following vaccination.

Economic aspects

In terms of direct economic burden, influenza is the most costly cause of acute respiratory infections (ARIs) in the outpatient setting, typically costing on average more than double per

case than other viral causes. As a result, influenza and influenza-related diseases amount for an estimated 0.1–0.5 % of total health-care expenditure, with medication costs accounting for one third of total influenza expenditure. In addition to significant hospitalization costs an even larger economic burden is caused indirectly through lost productivity and other costs caused by mortality or missed work days. Given its wide age range of infection compared to most paediatric diseases, influenza epidemics clearly lead to a “double hit” of direct and indirect costs with resulting significant economic impact both for health-care systems and society at large.

The current “belt” of countries in which seasonal influenza vaccination is not incorporated into the national immunization schedule is the outcome of several factors, including financial requirements, safety concerns and the belief that influenza is not a public health priority. There is thus a need not only for burden of disease studies but also for economic evaluations to help make the case.

Seasonal influenza vaccination is generally considered to be cost-effective (and may even be cost saving) in a broad range of at-risk and other target groups, with most benefits deriving from savings in indirect or broader costs. However, almost all economic studies to date have been conducted in high-income countries and their findings may be less applicable in low- and middle-income countries. A systematic review of nine economic studies conducted in six middle-income countries indicated that although influenza vaccination among the elderly, infants, and adults and children with high-risk conditions was cost-effective and cost-saving and provided value for money, serious methodological limitations did not allow for the drawing of conclusions on the overall cost-effectiveness of influenza vaccination in such countries.² In low-income countries, evidence for the cost-effectiveness is lacking altogether, and full standardized economic evaluations are needed.

Given the highly diverse approaches taken in different economic evaluations there is now a need for improved guidance on how to standardize studies and better incorporate the indirect and broader benefits of seasonal influenza vaccination into economic evaluations. This could include making and quantifying the link between health and national wealth indicators such as GDP and tax revenue, particularly in countries where traditional narrower cost-effectiveness analyses are not viewed as a necessary part of decision-making processes.

Social aspects

Studies may be needed to determine the attitude of medical workers and the public towards seasonal influenza vaccination. Studies could encompass knowledge and beliefs surrounding the benefits of vaccination, vaccine safety concerns and the degree of acceptance of vaccination among particular target groups such as pregnant women. As a lack of health provider recommendation has been identified as a key barrier to vaccination, the extent to which health care workers are convinced of the benefits of influenza vaccination and are supportive of its use by themselves and their patients will need to be assessed.

In light of study findings there might then be a need for the development or review of communication strategies tailored to target groups. Given the likely limited opportunities for

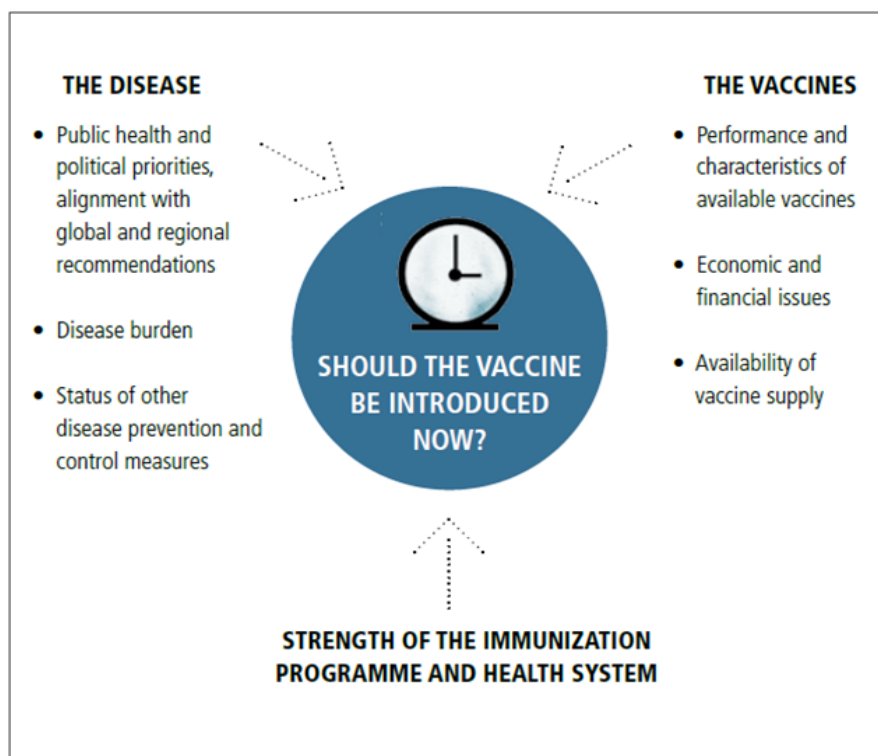
² Mark Jit, Anthony T. Newall, and Philippe Beutels; Key issues for estimating the impact and cost-effectiveness of seasonal influenza vaccination strategies. *Hum Vaccin Immunother.* Apr 1, 2013; 9(4): 834–840.

medical workers to communicate the benefits and risks of immunization due to workload and lack of time, appropriate communication channels will need to be utilized, including innovative approaches based on the use of social media.

4. Factors to consider when introducing or expanding a vaccination programme

Independent of the motivations or specific “triggers” for considering the introduction of any vaccine, each individual country needs to undertake a systematic decision-making process based on the reviewing and rating of evidence and on the broader financial and other considerations and potential consequences. Three aspects that must be considered are the public health aspects of the disease, vaccine performance, cost and availability, and the capacity of the immunization programme and health system to implement vaccination activities (Fig. 2).

Fig. 2. Three aspects of vaccine introduction decision-making



For each of these aspects, a broad set of criteria need to be assessed. In addition to the universal issues that need to be evaluated in these three main areas, there is also a need to consider the unique aspects of a specific vaccine in terms of geographical coverage, the at-risk populations to be targeted and the vaccination schedule to be offered. Specific vaccines may also require specific targeted communication strategies to ensure broad acceptance and uptake. In all cases, there needs to be a systematic and transparent process involving all key stakeholders that is objective, credible, and independent and that undertakes a rigorous

review of the scientific evidence. Vaccine introduction decisions should then be reviewed by the responsible national ministries, committees and other relevant agencies.

A number of core principles for adding a vaccine to a national immunization programme were highlighted to meeting participants and attention drawn to recently published WHO guidance in this area (http://www.who.int/immunization/programmes_systems/policies_strategies/vaccine_intro_resources/nvi_guidelines/en/). This essential resource document reviews the principles and issues to be considered when making decisions about, planning and implementing the introduction of a vaccine into a national immunization programme.

In the case of seasonal influenza vaccination introduction, key questions include:

- Is it a public health priority?
- How good is the vaccine?
- Is it cost effective?
- Is it feasible?
- Which groups should be targeted?

The issue of strategically targeting at-risk groups is not straightforward due to the complexity and large number of such groups that would potentially benefit compared with other vaccine-preventable conditions. Identifying the most-appropriate target groups depends not only upon factors such as burden, vaccine effectiveness and financial considerations but also upon the overall goal of the vaccination programme. In the United Kingdom efforts are under way to reduce overall influenza transmission by targeting school-age children (Box 2). Following modelling approaches into the most cost-effective strategy, it was recommended that the long-standing selective influenza vaccine programme in the United Kingdom be extended to eventually offer live attenuated influenza vaccine annually to all children aged 2–16 years.

Although uptake of the UK programme in the roll-out season 2013–14 among pilot primary schools was only around 50%, lessons have been learnt regarding vaccine-delivery approaches. In addition, despite low levels of influenza activity in the roll-out season, outcome data suggested consistent decreases in disease incidence and influenza positivity across a range of surveillance schemes in both targeted and non-targeted children under 4 years of age, but with no difference observed for severe outcomes in older age groups. Ongoing surveillance will be conducted as the programme is rolled out to additional age groups and geographical areas in 2014–15. Such a programme is considered to be potentially highly cost effective as it could provide both direct protection by lowering the impact of influenza on children and indirect protection by lowering virus transmission to other children, adults and those in clinical at-risk groups.

As influenza vaccines are both heat and freeze sensitive they also pose a specific set of procurement, storage and handling challenges. Aspects of procurement include the need to determine programme targets, forecast the required quantities of vaccine and related equipment, estimate costing and establish the resources available. In addition successful vaccine storage, handling and delivery require sufficient cold chain capacity, and clear understanding of vaccine vial monitors and adherence to the time limits for multi-dose open vial use. Attention also needs to be given to aspects of injection safety, including the safe disposal of immunization waste.

5. Outcome of Working Group sessions on developing recommendations on national seasonal influenza vaccination policy

For the purpose of these sessions, meeting participants were presented with a theoretical scenario in which the NITAG in each of their countries had been requested by the Ministry of Health to develop recommendations on seasonal influenza vaccination policy. To rehearse preparedness for the subsequent meeting, participants were asked to assume the role of NITAG and National Influenza Programme personnel and to consider the criteria that needed to be considered by NITAG when making seasonal vaccination policy recommendations, and for each criterion to evaluate what evidence and data were already available and what would need to be collected. Other aspects to be considered included defining the role of the NITAG Secretariat and any required working group, the need for external support in data generation, the allocation of responsibility for data collection, assessment and presentation, and the envisaged timeline required.

Following discussions, each of the seven participating countries³ presented their results in plenary in accordance with the following main sections of the reporting template provided:

- burden of disease
- influenza vaccines
- economic evaluations
- programmatic considerations
- role of the NITAG Secretariat and Working Group
- timeline.

In each of these areas a broad range of national capabilities and considerations emerged. For example, in relation to burden of disease, the degree to which the quality of influenza surveillance data currently allows for accurate influenza disease burden estimates varies widely between different countries. In some cases, the limited availability and quality of such data does not allow for the accurate estimation of national influenza disease burden either in the general population or among at-risk groups. In other settings, it was felt that the sentinel surveillance systems in place were sufficient to provide valid estimates. A common theme however was the recognition that even where systems were in place there was a need for strengthening and for harnessing WHO and other external support resources. In all countries there was acknowledgement of the need to collect and assess evidence on influenza vaccine efficacy, effectiveness and safety, with a range of current and potential approaches highlighted. One very common issue was the reliance of countries on vaccine-related data obtained from WHO Position Papers and other international sources, in some cases supported by further literature reviews and by the reported experiences of neighbouring country NITAGs. In the area of economic evaluations only one country reported having already conducted a cost-effectiveness study but there was a widespread intention among country representatives to propose that studies be undertaken in their country, even where political will for influenza activities had been secured. However, the importance of WHO and other guidance, and of the need to evaluate influenza vaccination cost-effectiveness studies conducted in other countries was highlighted. In all cases attention would need to be given to issues of affordability and sustainability of influenza vaccination, in some cases with a clear reliance upon external financial support.

³ Albania; Armenia; Belarus; Georgia; Kazakhstan; Republic of Moldova; Ukraine.

During presentations, the complexities of addressing the programmatic aspects of national influenza vaccination policy development and implementation became clear. Such aspects cover a very wide range of technical, logistical, financial, communication and other issues, with recurrent themes being the need for a functioning cold chain, for advocacy efforts among health care workers and the public, and for proper consideration of finance sources. Despite significant differences between countries in the principal aspects to be emphasized and taken into account, there was broad recognition of the need to consider the establishment of a Working Group, of the vital requirements to leverage external expert support in key activity areas and share experiences. Variations in national programmatic considerations and priorities were also compounded by differences in the composition, stage of establishment and capacities of individual country NITAG secretariats. In most cases however it was recognized that even where the secretariat was able to collect and evaluate evidence there will still be a need for working group and external agency support in developing national recommendations. Estimated timelines for attaining the theoretical exercise objective of being in a position to meet with Ministry of Health officials and advise upon national influenza vaccination policies ranged from several months to several years.

The WHO meeting secretariat put forward the view that the role-play nature of the exercise had revealed a number of potentially very useful insights and that such an exchange of the lessons learnt would inform the further work of country NITAGs. The snapshot of current status of national progress in the areas reviewed would also assist WHO in its work to support the broader establishment of NITAGs in the European Region.

6. Summary of key points

- Although NITAGs are established in the majority of countries, ensuring their independence, transparency and capacity to develop evidence-based recommendations is a challenge in many countries. WHO indicators have been developed to evaluate and improve the functioning and efficacy of NITAGs.
- Accurately measuring the burden of influenza disease is a key requirement for improving understanding of influenza epidemiology, informing planning and public health decision-making and driving national vaccination policies.
- Burden data remain very scattered, partial and not easy comparable between countries. The improved standardization and sharing of data will be important factors in closing the knowledge gap.
- Standardized approaches are needed for collecting and assessing the broad spectrum of evidence needed to develop evidence-informed recommendations. Existing information and evidence available in WHO, SAGE and SIVAC Initiative resources and documentation produced by other NITAGs should also be better utilized.
- When advising upon the introduction or expansion of seasonal influenza vaccination, NITAGs should carefully consider all relevant aspects in accordance with accepted principles for the introduction of a vaccine into a national immunization programme.

- In addition to epidemiological and vaccine-related considerations, other factors to be considered include the national capacity to implement recommendations on influenza vaccination, establish or expand immunization delivery and monitoring systems, train additional medical staff, and develop communication messages and strategies for delivery through communication channels appropriate for each target population. NITAG recommendations should also take into account programmatic, financial affordability and sustainability requirements, including those needed to ensure the effective use of vaccine donations.

Annex 1: List of participants

National representatives

Albania

Silva Bino; Iria Preza; Jonida Seferi; Artan Simaku; Jonilda Sulo

Armenia

Anna Chobanyan; Svetlana Grigoryan; Mariana Kirakosyan; Karo Palayan; Liana Torosyan

Belarus

Tatsiana Lapo; Veranika Shymanovich; Tatyana Turpakova; Uladzimir Zharnasek

Georgia

Nona Beradze; Ivane Chkhaidze; Amiran Gemkralidze; Vladimer Getia; Paata Imnadze; Irakli Karseladze; Ekaterine Kavtaradze; Olga Tarkhan-Mouravi

Kazakhstan

Nurshai Azimbaeva; Sarkhat Beysenova; Aigul Katrenova; Zhannat Satybaldiyeva; Aitmaganbet Zholshorinov

Republic of Moldova

Veronika Eder; Anatolie Melnic; Petru Scoferta; Cristina Secrieru; Constantin Spinu

Ukraine

Iryna Demchyshyna; Tetiana Dykhanovska; Iryna Kolesnikova; Galyna Romanyuk; Oleksandr Zaika

Temporary Advisers

Marc Baguelin; Stella van Beers; Ente Rood; Kirill Stolyarov

Consultants

Giedre Gefenaite

Representatives of other organizations

United States Centers for Disease Control and Prevention (CDC)

Eduardo Azziz-Baumgartner; Susan Annemarie Wang

World Health Organization

Headquarters

Philipp Lambach; Julia Fitzner

Regional Office for Europe

Oleg Benes; Diane Gross; Krystyna Hagebro; Pernille Jorgensen; Liudmila Mosina

WHO Country Office, Uzbekistan

Anna Pashalishvili

WHO Country Office, Georgia

Giorgi Kurtsikashvili; Nino Mamulashvili

Rapporteur

Anthony L Waddell, United Kingdom of Great Britain and Northern Ireland

Interpreters

Elena Gornaya, Russian Federation; Georgy Pignastyy, Russian Federation

Annex 2: Meeting agenda

Monday 25 August

WORKSHOP DAY ONE: MONITORING AND EVALUATING INFLUENZA COUNT DATA

- 08:00–09:00 Registration and uploading training materials on personal laptops
- 09:00–10:30 Opening and introduction
Expectations of participants
Introduction to the course
- 11:00–11:45 Identification of roles and responsibilities and information needs for surveillance and public health officers for influenza control
- 11:45–12:30 Monitoring routine influenza surveillance data and trends
Introduction to reviewing quality of data
- 13:30–15:00 Identification of unusual occurrence of influenza-like disease
- 15:30–17:00 How to visualize data
Visualizing and analysing ILI and SARI trends with own data

Tuesday 26 August

WORKSHOP DAY TWO: USING INDICATORS FOR ESTIMATING BURDEN OF INFLUENZA

- 08:45–09:00 Reflection on Day One
- 09:00–10:30 Estimating influenza burden using ILI sentinel site data
- 11:00–12:30 Estimating influenza burden using SARI sentinel site data
Monitoring routine influenza surveillance data and trends
- 13:30–15:00 Estimating influenza burden using multiple sites and multiple indicators (ILI/ARI/SARI)
- 15:30–17:00 Risk specific rates and age standardized rates
Visualizing and analysing influenza burden with own data

Wednesday 27 August

WORKSHOP DAY THREE: INTERPRETING AND PRESENTING FINAL RESULTS

- 08:45–9:00 Reflection on Day Two

- 09:00–10:30 Sources and effects of bias
- 11:00–12:30 Estimating effect of bias and effect of diagnostic accuracy (sensitivity)
- 13:30–15:00 Visualizing and analysing influenza burden with own data (continued)
- 15:30–17:00 Presenting country data and wrap-up

Thursday 28 August

PRINCIPLES AND CONSIDERATIONS FOR INFLUENZA VACCINATION POLICY

Chair: M Baguelin

- | | | |
|-------------|---|--|
| 13:00–13:20 | Evidence-based decision making in immunization; WHO policy on vaccine donations | L Mosina, WHO-EURO |
| 13:20–13:40 | Criteria to be considered for adding a vaccine into routine immunization programme | S Wang, WHO-HQ |
| 13:40–14:00 | Discussion | |
| 14:00–14:20 | WHO methodology and tools to estimate influenza burden | J Fitzner, WHO-HQ |
| 14:20–14:30 | Feedback from disease burden workshop | S van Beers, Royal Tropical Institute, the Netherlands |
| 14:30–14:50 | Preliminary clinical and economic burden of influenza in Romania | G Gefenaite, WHO-EURO |
| 14:50–15:10 | Discussion | |
| 15:40–16:00 | Updated information about influenza vaccines; WHO recommendations on seasonal vaccination | P Jorgensen, WHO-EURO |
| 16:00–16:10 | Discussion | |
| 16:10–16:30 | Evaluation of cost-effectiveness of influenza vaccination | P Lambach, WHO-HQ |
| 16:30–16:50 | Discussion | |
| 16:50–17:00 | Wrap-up of the day | |

Friday 29 August

PRINCIPLES AND CONSIDERATIONS FOR INFLUENZA VACCINATION POLICY

Chair: M Baguelin

09:00–09:20	Programmatic feasibility of introducing/expanding seasonal influenza vaccination	L Mosina, WHO-EURO
09:20–09:40	Influenza vaccines – logistics	O Benes, WHO-EURO
09:20–09	Discussion	
09:40–10:00	UK experience in development of national policy and implementation of seasonal influenza vaccination in children	M Baguelin, Public Health England, UK
10:00–10:30	Discussion	

GROUP WORK: DEVELOPMENT OF NATIONAL RECOMMENDATIONS ON INFLUENZA VACCINATION POLICY

11:00–11:15	Introduction to working groups	L Mosina, WHO-EURO
11:15–12.30	<u>Group work</u>	<u>Group facilitators</u>
	Group 1: Albania	P Jorgensen, WHO-EURO
	Group 2: Armenia, Georgia, Moldova	L Mosina, WHO-EURO; G Kurtsikashvili, WHO Country Office, Georgia
	Group 3: Belarus, Kazakhstan, Ukraine	A Pashalishvili WHO Country Office, Uzbekistan
13:30–14:00	<u>Group work</u> (contd)	
14:00–15:30	Feedback from working groups	
15:30–16:00	Feedback from working groups (contd)	
16:00–16:30	Discussion	
16:30–17.00	Meeting closure and farewells	