

## Seasonal influenza vaccination: developing and strengthening national programmes

### Key messages

The World Health Organization (WHO) recommends that all countries consider implementing an influenza vaccination programme or include influenza vaccination in their national immunization programme. To support countries, this policy brief outlines key components of a robust influenza vaccination policy and highlights useful resources.

### Introduction

Influenza is associated with an estimated 3–5 million cases of severe illness and as many as 650 000 respiratory-related deaths per year globally (1). Influenza vaccines are safe and effective (2). Vaccination is currently the most effective intervention for preventing severe disease and reducing the impact of influenza, and has been found to be cost-effective in Strategic Advisory Group of Experts on Immunization (SAGE) priority groups (3). Influenza vaccination can protect people in at-risk groups, help maintain the health system during influenza epidemics and pandemics, and provide a foundation for pandemic preparedness and response. During both the 2009 H1N1 pandemic and the coronavirus disease 2019 (COVID-19) pandemic, countries with an existing seasonal influenza vaccination programme were able to use the experience and systems developed from annual seasonal influenza vaccine production and administration to support introduction, deployment, and uptake of pandemic vaccines (4, 5, 6).

Within the context of the Global Influenza Strategy 2019–2030, WHO supports countries in developing and implementing national seasonal influenza vaccination policies for health and care workers, pregnant people, older adults, adults with chronic conditions, and other vulnerable populations (7). In 2021, 64% of WHO Member States reported having influenza vaccination available (in the public and/or private sector) and 54% of WHO Member States reported having a national influenza vaccination policy (8). However, vaccine demand remains low, especially in low- and middle-income countries (LMICs). In 2021, the African, Eastern Mediterranean, and South-East Asia regions, which represent 51% of the world's population, accessed only 7% of available seasonal influenza vaccine doses (9). Challenges to increasing seasonal influenza vaccine uptake include the need to vaccinate at-risk groups every season, vaccine and operational costs, vaccine acceptance and demand, and competing national priorities (10).

### Objectives and audience

This policy brief provides an overview of key elements of a national policy and relevant resources. It is intended to support national decision-makers, members of national immunization technical advisory groups (NITAGs) and technical focal points in developing or strengthening their national influenza vaccination policies and programmes. This policy brief complements the technical resources found in the WHO seasonal influenza vaccination toolkit (11).

### Components of a national influenza vaccination policy

WHO has compiled a list of components that are helpful for countries to include in a national seasonal influenza vaccination policy. These include but are not limited to:

#### **Introduction and rationale for seasonal influenza vaccination:**

WHO recommends that all countries consider implementing annual influenza vaccination (12). The policy should clearly state the importance of seasonal influenza vaccination within the country and the rationale for the policy. Countries may have multiple reasons for seasonal influenza vaccination, including but not limited to: reducing morbidity and mortality, reducing health care costs, protecting essential workers, preventing absenteeism and associated economic losses, providing a platform for life course immunization, preventing antimicrobial use and resistance, and broader strengthening of pandemic preparedness. This section of the policy may also note linkages to other relevant health mandates, policies, and initiatives, such as the Global Influenza Strategy, the Immunization Agenda 2030, and the Preparedness and Resilience for Emerging Threats (PRET) Initiative (7, 13, 14).

#### **Surveillance, burden of disease and economic burden:**

The policy should give an overview of the influenza epidemiological situation and activity in-country,<sup>1</sup> including relevant surveillance systems, responsible agencies, and national estimates of disease and economic burden, including disaggregated estimates by risk groups. If national estimates are not available, regional and global estimates (1, 15), cost-effectiveness data, and cost-benefit analyses may also be cited to demonstrate the value of influenza vaccination. Estimates from other countries with similar demographic, socioeconomic, and health system characteristics may also be

<sup>1</sup> Northern Hemisphere activity is typically from September to March; Southern Hemisphere activity is typically from March to September. Tropical and subtropical areas may see year-round seasonal influenza activity with multiple peaks. Countries may be asked to report respiratory surveillance data year-round. Please refer to the latest WHO guidance.

useful. This section of the policy should also describe the seasonality of influenza activity within the country, which will inform which vaccine formulation (e.g., Northern Hemisphere or Southern Hemisphere) should be used and the timing of the vaccination campaign (16).

#### **Estimates of target groups, NITAG role and responsibilities, and national recommendations:**

This section of the policy will identify the target groups for influenza vaccination, such as those recommended by WHO (10). For countries considering initiating or expanding their programme, WHO recommends the following target groups be considered as a priority for influenza vaccination (in alphabetical order): health and care workers, individuals with comorbidities and/or underlying conditions, older adults, and pregnant people. Other important target groups include children, individuals in congregate-living settings (e.g., refugee camps), and disadvantaged populations, such as minorities and indigenous communities with a high burden of disease. Target group selection should be driven by national disease goals and priorities, capacity and resources, and epidemiology and disease burden. To aid annual procurement, it is helpful for the policy to include national or United Nations (UN)-derived estimates of the number of people in each of the identified target groups for influenza vaccination.

The policy should clearly articulate the role of the NITAG or similar type of advisory group (where applicable) related to introduction or review of the influenza vaccination policy (17). The policy may cite the relevant mandate or decree that establishes the NITAG as the committee responsible for providing national immunization recommendations. If the country has no NITAG or similar group, this section of the policy should indicate what mechanisms were used to develop the recommendation for seasonal influenza vaccination to the ministry of health.

#### **Preferred vaccine types and associated costs:**

A number of influenza vaccine types are available globally (e.g., inactivated, live attenuated, and recombinant vaccines in either trivalent or quadrivalent formulations). Additionally, some influenza vaccines (e.g., high-dose and adjuvanted) have been approved for specific populations. Where resources are limited, WHO recommends that countries aim to achieve maximum population impact of seasonal influenza vaccines, which can be done using traditional, less expensive vaccines such as trivalent inactivated influenza vaccines (10). The policy may include the vaccine types that have been recommended by the NITAG or similar advisory group. This section should include information for influenza vaccination in both the public and private sector (if relevant).

#### **Vaccine supply and market authorization:**

The policy should provide a brief overview of the current status of the influenza vaccine supply, including whether influenza vaccines are produced domestically as well as the procurement process. Even if the supply is exclusively provided by a national manufacturer, the procurement process should be outlined clearly, including designated authorities, registration and market authorization requirements and procedures, inspection procedures, and lot release procedures. This section of the policy may also highlight data required annually from manufacturers for changes in seasonal influenza vaccine composition. Countries may wish to consider the types of vaccines that are available – this can include vaccines that are locally approved or accessible through the countries' procurement process (e.g. the United Nations Children's Fund (UNICEF) and the Pan American Health Organization (PAHO) Revolving Fund).

#### **Distribution and administration (e.g., timing of vaccination campaigns, sites, medical supplies, cold chain management, waste disposal, and inventory systems):**

This section of the policy should include when annual influenza vaccination will be conducted. Vaccination timing should be informed by local/regional data on influenza virus circulation and logistical considerations (18). It should also include how the vaccination programme will be implemented. Examples of information that may be useful include whether the vaccination will be conducted using fixed and/or mobile vaccination sites; whether the vaccines will be distributed through the public or private sector, or both; and the types of locations where vaccination can be conducted, such as pharmacies and health facilities. The policy may include an overview of the types of medical supplies necessary to implement the vaccination campaign (e.g., syringes, safety boxes), the cold chain implications for the vaccines, the process for safely disposing of vaccination supplies and how the vaccine inventory is tracked. It may also be helpful to include a brief overview of the roles and responsibilities for implementing the vaccination programme (e.g., responsible focal point at the health facility, vaccinator, and regional focal point for immunization). The policy should also include what vaccines can be co-administered with influenza (e.g., COVID-19).

#### **Risk communications, community engagement and demand generation:**

The policy can outline the types of risk communication and community engagement activities that will be conducted and how acceptance and demand for the vaccine will be assessed. In particular, it is helpful for the policy to include

how information about the seasonal influenza vaccination campaign (where and when to get vaccinated) will be communicated to the target groups.

Many countries use posters, radio and TV announcements, websites, and other communication methods to provide information to target populations and the broader community. Communication materials should explain the benefits of vaccination and address peoples' risk perception about influenza disease and the vaccines. These materials should be circulated prior to the start of the vaccination campaign. Many countries also use technical circulars to inform health facilities about the target groups for seasonal influenza vaccination, contraindications, dates when the vaccine will be available, and whether the vaccine is free of charge or has a cost associated with it.

#### **Documentation and reporting:**

Seasonal influenza vaccination should be documented using electronic or manual records that can be aggregated and shared with the sub-national and national focal points for monitoring the coverage. It is helpful for countries to review vaccination data (e.g., weekly or monthly) during the campaign to rapidly identify areas or target groups that are undervaccinated and implement/adapt vaccination strategies. The policy should outline the process for documenting seasonal influenza vaccination and for reporting coverage data. There should also be a clear process for detecting, investigating, reporting, and conducting assessments of adverse events following immunization (AEFI) in the policy.

#### **Monitoring, evaluation, and research:**

Countries often begin their seasonal influenza vaccination programme with a pilot approach (e.g., starting with geographic areas or limited target groups) to assess barriers and enablers of the programme. This allows the country to learn from their initial campaigns before expanding the programme. Acceptance and demand assessments can be used to learn from past campaigns and tailor the national or sub-national approaches to prepare for the upcoming season. A sustainable influenza vaccination programme ensures that seasonal influenza vaccine supply and demand are complementary. To do this, countries will need to monitor both coverage in target groups and pharmacovigilance and, if possible, evaluate the impact of the vaccination programme. The WHO/UNICEF Joint Reporting Form on Immunization (JRF) provides an annual opportunity for countries to report coverage and other influenza vaccination data, which is used for national, regional, and global decision-making and strategic planning.

Programme evaluation helps to identify good practices as well as opportunities for improving the seasonal influenza vaccination programme. Through regular monitoring and evaluation, countries can identify areas that may need refinement through training, supportive supervision, and/or clarification of standard operating procedures.

Countries may be interested in evaluating their influenza vaccination programme. It can be helpful for the national policy to outline which types of evaluations may be needed as well as plans to translate findings to various stakeholder groups, in alignment with national priorities and availability of resources. WHO identified the following priorities for evaluating influenza vaccination programmes: influenza vaccine effectiveness evaluations among WHO-recommended target groups and against severe end-points (i.e., hospitalization), which include several years and multiple vaccine types, platforms and formulations; influenza vaccination cost-effectiveness or cost-benefit analyses among WHO-recommended target groups, especially in LMICs; and evaluation of barriers, challenges, and opportunities for developing and implementing national influenza vaccination policies and enhancing uptake.

#### **Funding:**

The seasonal influenza vaccination policy should include the funding source(s) for the programme. While donor support may be helpful to catalyse development of a seasonal influenza vaccination programme, the long-term sustainability of the programme depends on domestic financing. Seasonal influenza vaccination programmes require resources for annual procurement of vaccine doses as well as funding for operational costs (e.g., training vaccinators, distributing vaccines, and communication campaigns).

Seasonal influenza vaccination programmes can be funded through different models (e.g., national and/or subnational governments, donors, health insurance schemes, health facilities, or vaccine recipients). Programmes with the highest rates of coverage typically have nationally provided vaccines that are free of charge for recipients. It is helpful for the policy to specifically state whether influenza vaccines are provided free of charge to target groups.

#### **Process for updating policy:**

The seasonal influenza vaccination policy should reflect national priorities. The policy may indicate when it is anticipated to be revised (e.g., every 3 or 5 years) and how any updates will be circulated to stakeholders.

## References:

It is helpful for the policy to include key references that were used to inform the policy's development.

### Resources and tools

WHO has developed technical resources, training, and communication materials to support countries in developing and/or strengthening their national influenza vaccination programme. These resources can be found in the [WHO seasonal influenza vaccination toolkit](#). An overview of key resources follows:

**2022 Position Paper:** On 13 May 2022, WHO published an updated position paper on the use of seasonal influenza vaccines. This document provides recommendations on target groups and vaccine types and presents the latest evidence for available influenza vaccines.

**Influenza [disease burden](#), [economic burden](#), and [economic evaluation](#) manuals:** WHO has developed resources to support Member States in generating influenza disease and economic burden estimates as well as the economic evaluation of influenza vaccination (19, 20, 21). Understanding the epidemiological and economic burden of influenza allows countries to assess the cost-effectiveness and costs/benefits of available prevention and control measures, enabling policymakers to establish political motivation, make informed evidence-based decisions and prioritize immunization and programmes as appropriate. Nonetheless, generating local estimates may require data of a quality and quantity not readily available in many settings. Influenza burden data from countries sharing similar demographic, socioeconomic, and health system characteristics, among other data points, can be used as proxies for the local context. Global and regional influenza burden studies and WHO recommendations for influenza vaccination also provide important insights that can be used to guide national decision-making whether or not local estimates are available. Country-specific estimates are also available from certain global or regional studies (1,15).

**Measuring behavioural and social drivers of influenza vaccination:** WHO is finalizing quantitative and qualitative tools to support countries in understanding behavioural and social drivers for seasonal influenza vaccination as well as infodemic management training materials to support countries in understanding the information environment that priority populations inhabit. The aim is to more effectively address their questions, concerns, and circulating mis- and disinformation related to seasonal influenza and available vaccines. WHO is also developing a science knowledge translation network and policy toolkit to support policymakers in translating scientific information to support communities' increased understanding of the scientific basis of vaccines and increase vaccination uptake.

**WHO/UNICEF Joint Reporting Form on Immunization:** In the JRF, countries are asked to annually report whether they have a seasonal influenza vaccination policy, whether seasonal influenza vaccines were licensed for the designated year, the number of doses that were distributed in the public and private sector, the types of vaccines used (e.g., live attenuated or inactive influenza vaccines; trivalent or quadrivalent vaccines), as well as the target groups and the coverage rates for each of the target groups (8). By reporting to the JRF, countries provide information that is critical for developing guidance, tools, training materials, and publications for seasonal influenza vaccination programme strengthening. National influenza focal points can be granted data entry or viewer access to the JRF to ensure that the influenza data are appropriately reflected. For questions on how to report or access JRF data, please contact [ejrf@who.int](mailto:ejrf@who.int).

WHO strongly encourages countries to report coverage rates for seasonal influenza vaccination for all target groups included in the national policy and/or programme. If countries experience issues reporting coverage data due to challenges in identifying the denominators for the different target groups, WHO recommends using the UN estimates for health workers, older adults, and pregnant people. To identify the denominator of people with comorbidities, PAHO has developed a tool that provides a useful estimate for all countries (which was developed for COVID-19 but is applicable to influenza): <https://paho-who.shinyapps.io/comorbidities/>.

**An [overview of seasonal influenza vaccines for decision-makers](#):** This WHO document provides a concise summary of the evidence and best practices regarding seasonal influenza vaccines (2). It was written to support ministries of health and other stakeholders in designing and implementing seasonal influenza vaccination policies and programmes.

**Manuals on introducing seasonal influenza vaccination for [health and care workers](#) and [pregnant people](#):** WHO has developed manuals to support countries interested in introducing seasonal influenza vaccination for health and care workers and pregnant people (22, 23). These manuals provide the background and rationale for implementing influenza vaccination for these populations and practical guidance for vaccine programme implementation, including tools for

planning introduction of the vaccine, staff training and communication strategies, and resources to support monitoring and evaluation.

For questions or additional information on seasonal influenza vaccination programmes, please contact your WHO regional office focal point or email [influenza@who.int](mailto:influenza@who.int).

## References

1. Iuliano AD, Roguski KM, Chang HH, Muscatello DJ, Palekar R, Tempia S et al. Lancet. 2018 Mar 31;391(10127):1285–1300. doi:10.1016/S0140-6736(17)33293-2.
2. Seasonal influenza vaccines: an overview for decision-makers. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/bitstream/handle/10665/336951/9789240010154-eng.pdf>, accessed 24 August 2023).
3. Peasah SK, Azziz-Baumgartner E, Breese J, Meltzer MI, Widdowson MA. Influenza cost and cost-effectiveness studies globally – a review. Vaccine. 2013 Nov 4;31(46):5339–48. doi:10.1016/j.vaccine.2013.09.013.
4. Porter RM, Goldin S, Lafond KE, Hedman L, Ungkuldee M, Kurzum J et al. Does having a seasonal influenza program facilitate pandemic preparedness? An analysis of vaccine deployment during the 2009 pandemic. Vaccine. 2020 Jan 29;38(5):1152–9.
5. Volkmann A, Goldin S, McMurren B, Gapare C, Pratt BA, Frost L et al. Leveraging seasonal influenza health worker vaccination programmes for COVID-19 vaccine introduction: a global qualitative analysis. (Paper submitted to *Vaccine*)
6. Jorgensen P, Schmid A, Sulo J, Preza I, Hasibra I, Kissling E, Fico A. Factors associated with receipt of COVID-19 vaccination and SARS-CoV-2 seropositivity among healthcare workers in Albania (February 2021–June 2022): secondary analysis of a prospective cohort study. Lancet Reg Health Eur. 2023 Apr 1;27 ([https://www.thelancet.com/journals/lanep/article/PIIS2666-7762\(23\)00002-9/fulltext](https://www.thelancet.com/journals/lanep/article/PIIS2666-7762(23)00002-9/fulltext), accessed 24 August 2023).
7. Global influenza strategy 2019–2030. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/311184>, accessed 24 August 2023).
8. Influenza vaccination policy. In: WHO/Immunization data [website]. Geneva: World Health Organization; 2023 ([https://immunizationdata.who.int/pages/indicators-by-category/influenza.html?ISO\\_3\\_CODE=&YEAR=](https://immunizationdata.who.int/pages/indicators-by-category/influenza.html?ISO_3_CODE=&YEAR=), accessed 24 August 2023).
9. Palache A, Billingsley JK, MacLaren K, Morgan L, Rockman S, Barbosa P. Lessons learned from the COVID-19 pandemic for improved influenza control. Vaccine. 2023 Aug 17. (<https://www.sciencedirect.com/science/article/pii/S0264410X2300960X>), accessed 30 August 2023.
10. Vaccines against influenza: WHO position paper – May 2022. Wkly Epidemiol Rec. 2022;997:19 (<https://apps.who.int/iris/handle/10665/354265>, accessed 24 August 2023).
11. Seasonal influenza vaccination toolkit. In: WHO/Global influenza programme/Vaccines [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/teams/global-influenza-programme/vaccines/influenza-vaccination-toolbox>, accessed 24 August 2023).
12. Seasonal influenza vaccines: an overview for decision-makers. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/336951>, accessed 24 August 2023).
13. Immunization agenda 2030: a global strategy to leave no one behind. Geneva: World Health Organization; 2020 (<https://www.who.int/publications/m/item/immunization-agenda-2030-a-global-strategy-to-leave-no-one-behind>, accessed 24 August 2023).
14. Preparedness and resilience for emerging threats (PRET). In: WHO/Initiatives [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/initiatives/preparedness-and-resilience-for-emerging-threats>, accessed 24 August 2023).
15. GBD 2017 Influenza Collaborators. Mortality, morbidity, and hospitalisations due to influenza lower respiratory tract infections, 2017: an analysis for the Global Burden of Disease Study 2017. Lancet Respir Med. 2019 Jan;7(1):69–89. doi:10.1016/S2213-2600(18)30496-X.
16. Vaccines. In: WHO/Global influenza programme [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/teams/global-influenza-programme/vaccines>, accessed 24 August 2023).
17. Welcome to the NITAG resource center. In: GNN/Home [website]. Geneva: World Health Organization; 2023 (<https://www.nitag-resource.org>, accessed 24 August 2023).
18. Hirva S, Newman LP, Paget J, Azziz-Baumgartner E, Fitzner J, Bhat N et al. Influenza seasonality in the tropics and subtropics – when to vaccinate? PLoS One. 2018;11(4):e0153003 (<https://doi.org/10.1371/journal.pone.0153003>, accessed 24 August 2023).
19. A manual for estimating disease burden associated with seasonal influenza. Geneva: World Health Organization; 2015 (<https://apps.who.int/iris/handle/10665/178801>, accessed 24 August 2023).

20. WHO manual for estimating the economic burden of seasonal influenza. Geneva: World Health Organization; 2016 (<https://apps.who.int/iris/handle/10665/250085>, accessed 24 August 2023).
21. Guidance on the economic evaluation of influenza vaccination. Geneva: World Health Organization; 2016 (<https://apps.who.int/iris/handle/10665/250086>, accessed 24 August 2023).
22. How to implement seasonal influenza vaccination of health workers: an introduction manual for national immunization programme managers and policy makers. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/325906>, accessed 24 August 2023).
23. How to implement influenza vaccination of pregnant women: an introduction manual for national immunization program managers and policy makers. Geneva: World Health Organization; 2016 (<https://apps.who.int/iris/handle/10665/250084>, accessed 24 August 2023).

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