*Flu*nomics Report

From vaccination to protection – Understanding the influenza protection gap in older adults



Japan

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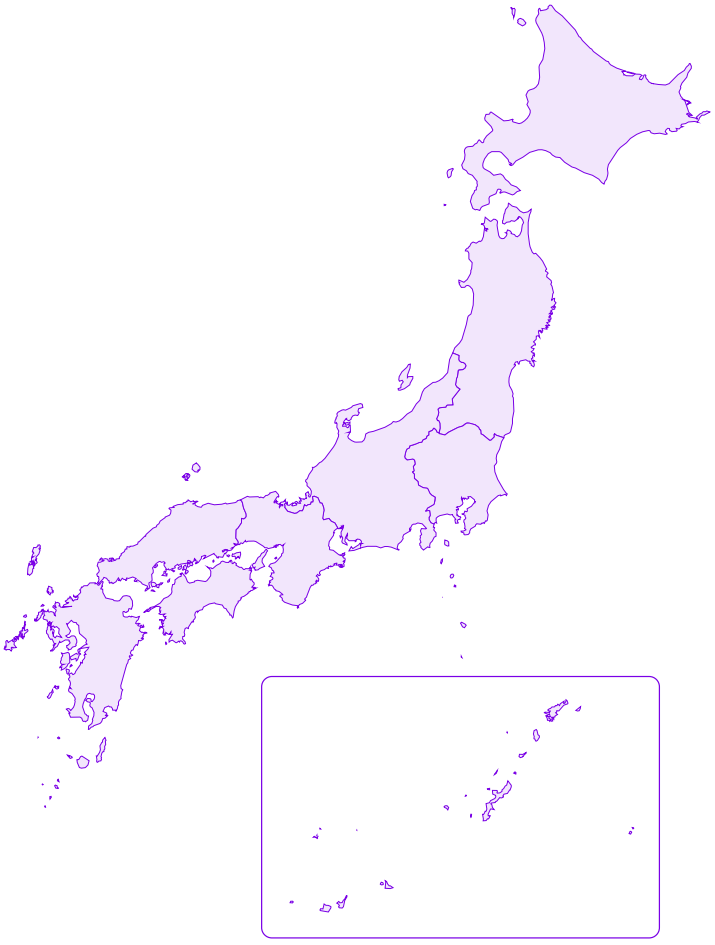
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Japan

Japan faces a distinct challenge in protecting its growing older population from influenza. Vaccination coverage has declined, age-specific influenza vaccination is only beginning to emerge within policy, and gaps in the timeliness and completeness of coverage data limit visibility of where protection is falling short. The priority is therefore to improve the vaccination coverage rates (VCRs) and ensure vaccination policy is supported by more complete and timely data.

Japan at a glance



Total population (2024): 123.8 million[1]

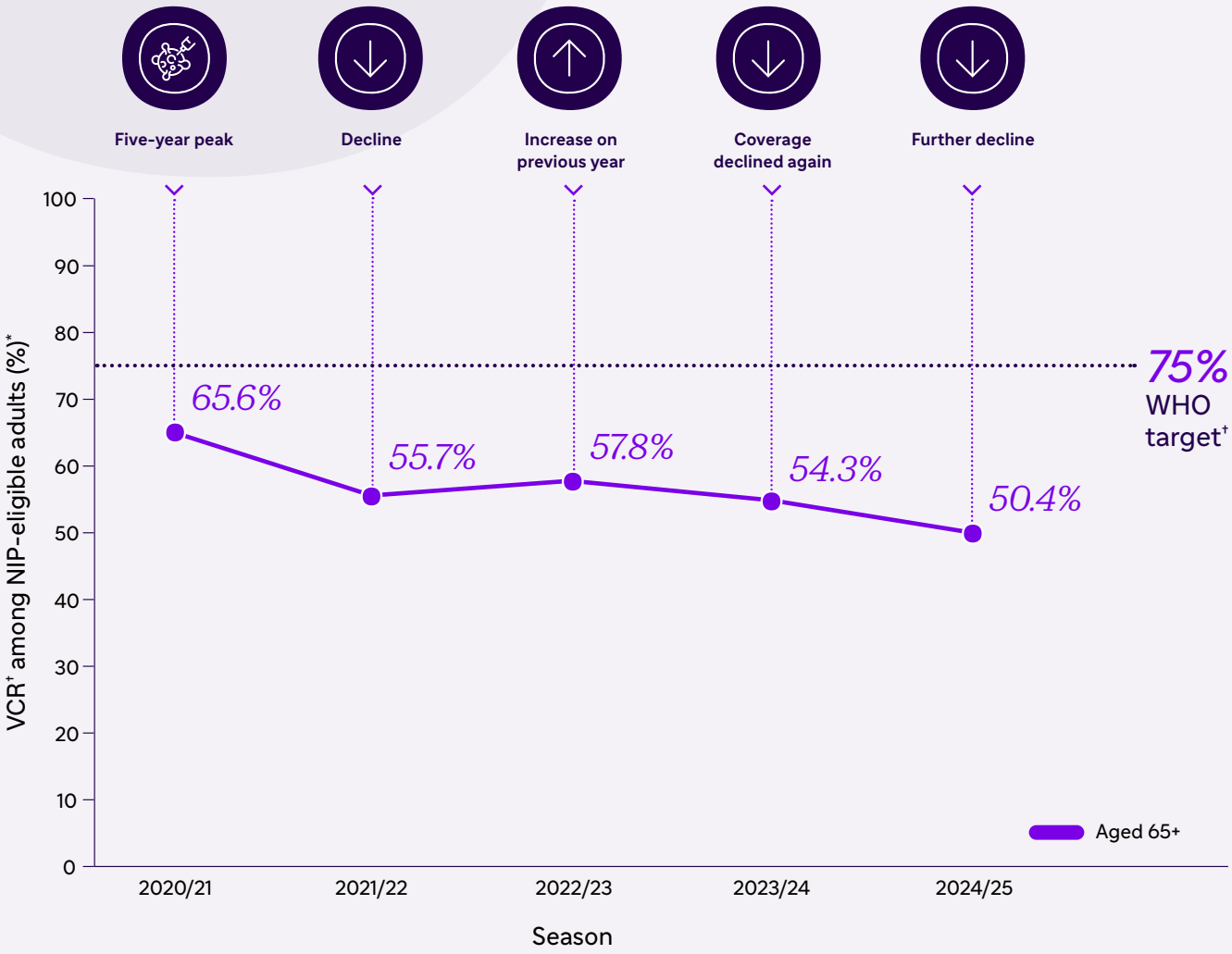
Adults aged 65+ (2024): 36.2 million (29.3%)[1]

National influenza policy

Routine annual influenza vaccination under **National Immunization Program (NIP) is available to adults aged 65+, and to adults aged 60–64 years with specified serious underlying conditions**.[2] Vaccination is delivered locally through healthcare providers, with municipalities determining practical arrangements such as timing and public funding.[2,3] For the 2025/26 season, however, age-specific influenza vaccination has not yet been incorporated into the routine vaccination program for adults aged 65+.[2]

Influenza vaccination coverage among older adults remains low and has declined overall

Five-year VCR[4]



While coverage declined from the COVID-era peak of 65.6% in 2020/21, **VCR in 2024/25 (50.4%) was broadly in line with the pre-COVID average** of approximately 50% observed between 2010 and 2019.[4] However, **coverage remains well below the World Health Organization (WHO) target of 75% for adults aged 65+**, reinforcing the need to improve vaccination uptake.[4,5]

The timeliness of this data also limits visibility of current protection. As of report development, the latest routinely published national vaccination rate relates to 2024/25, meaning **equivalent data for the 2025/26 season are not yet available.**[4] This makes it more difficult to assess recent changes in uptake and identify emerging vaccination gaps among older adults in a timely way.

The importance of strengthening influenza protection becomes clearer when considering the serious complications older adults may experience, including those affecting the cardiovascular system.

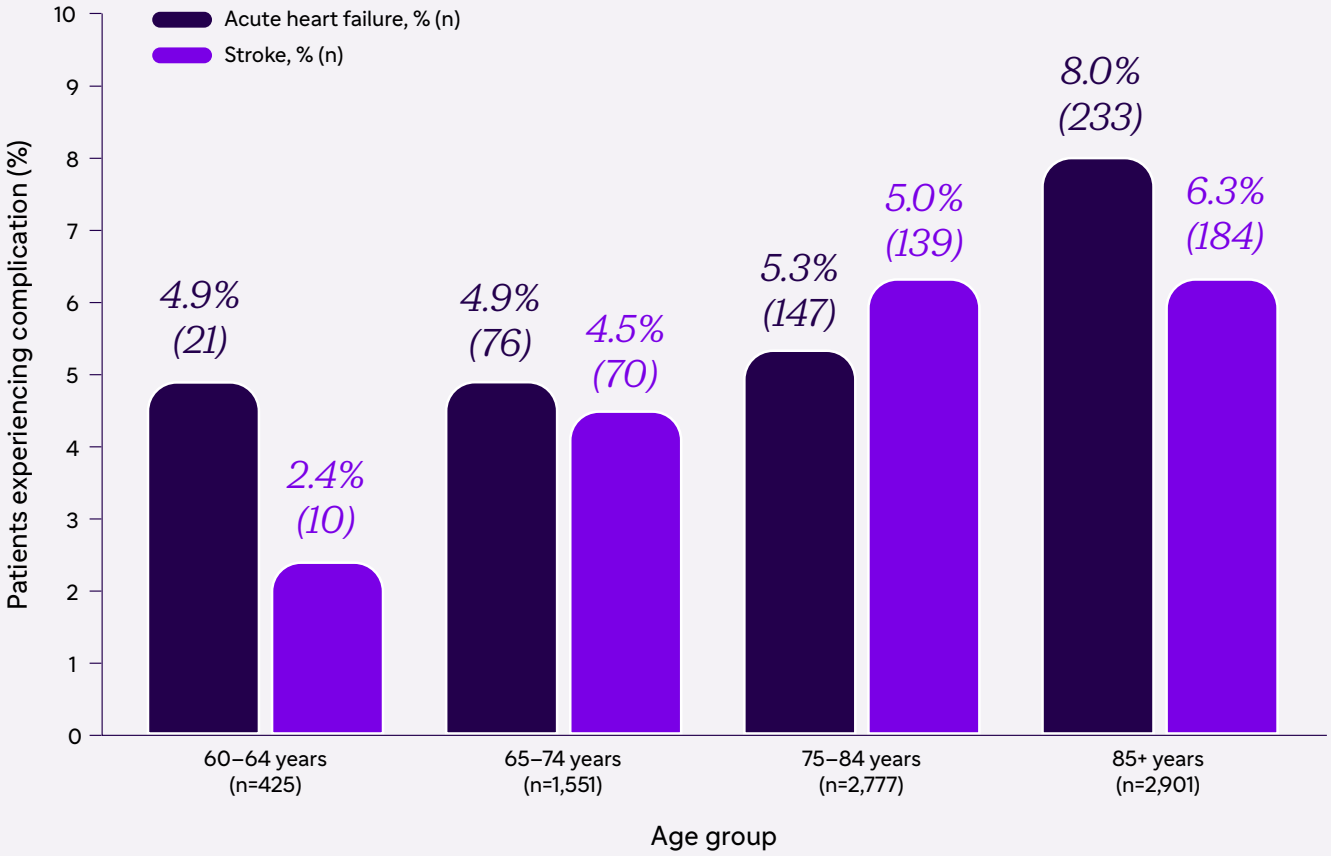
** Ministry of Health, Labour and Welfare (MHLW) influenza implementation rates are calculated using the population eligible for routine vaccination: adults aged 65+ together with adults aged 60–64 who meet specified high-risk criteria. The figures therefore do not represent a strictly 65+ population.*

† VCR: vaccination coverage rate; WHO: World Health Organization.

Cardiovascular complications increase with age among older adults hospitalized with influenza in Japan

In a Japanese real-world study of adults aged 60+ years across nine influenza seasons (2010/11 to 2018/19), acute heart failure and stroke were among the complications recorded during hospitalization, with the proportion of patients (n=7,654) experiencing both complications increasing with age.[6]

Cardiovascular complications reported during hospitalization with laboratory-confirmed influenza[6*]



The age gradient extended beyond cardiovascular complications. **In-hospital mortality among patients with laboratory-confirmed influenza increased from 5.2% (n=22/425) in those aged 60–64 years to 15.5% (n=451/2,901) among those aged 85+ years.**[6] This reinforces that the consequences of severe influenza are not uniform across Japan's older population, with the oldest adults experiencing the greatest vulnerability to complications and poor outcomes.

As a retrospective observational study, these findings reflect cardiovascular complications observed during influenza hospitalization and should be interpreted within that context.[6]

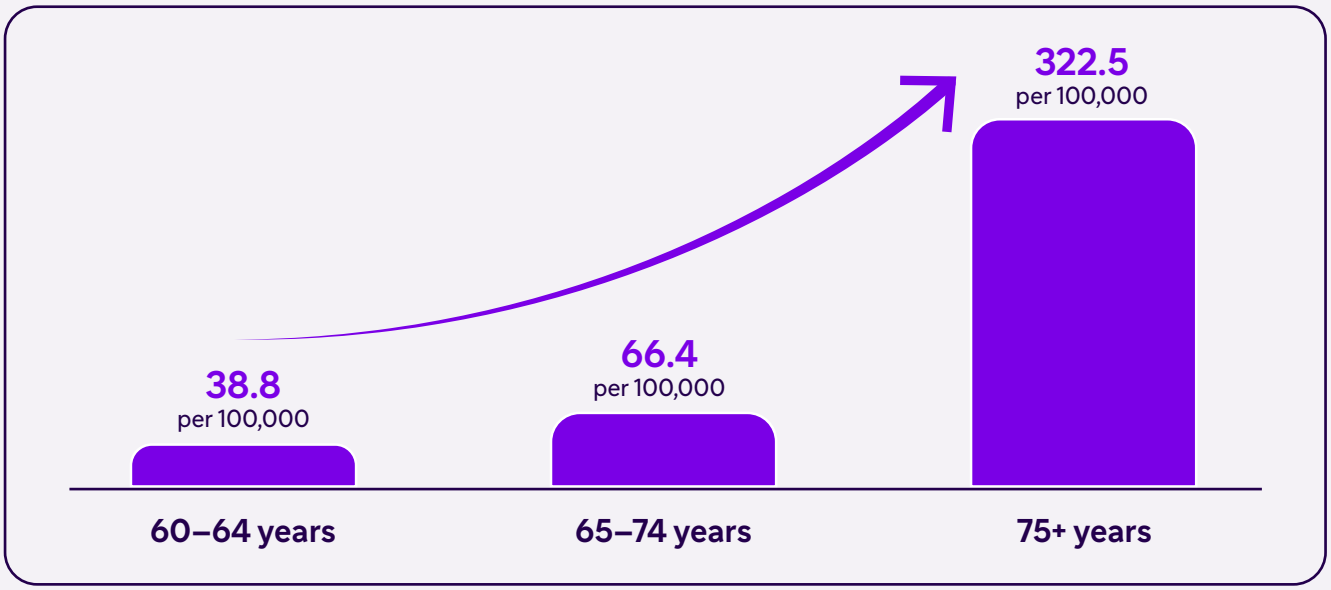
**Hagiwara et al. (2022) was a Sanofi-sponsored study.[6]*

Influenza hospitalizations among older adults are associated with substantial healthcare use and costs in Japan

For older adults who require hospital care, the burden of influenza extends beyond the acute infection itself, with implications for hospital resource and healthcare costs.[6,7] **A large Japanese real-world database study of adults aged 60+ found that the incidence of influenza-related hospitalization increased with age, from 38.8 per 100,000 adults aged 60–64 years to 322.5 per 100,000 among those aged 75+ years.**[7]

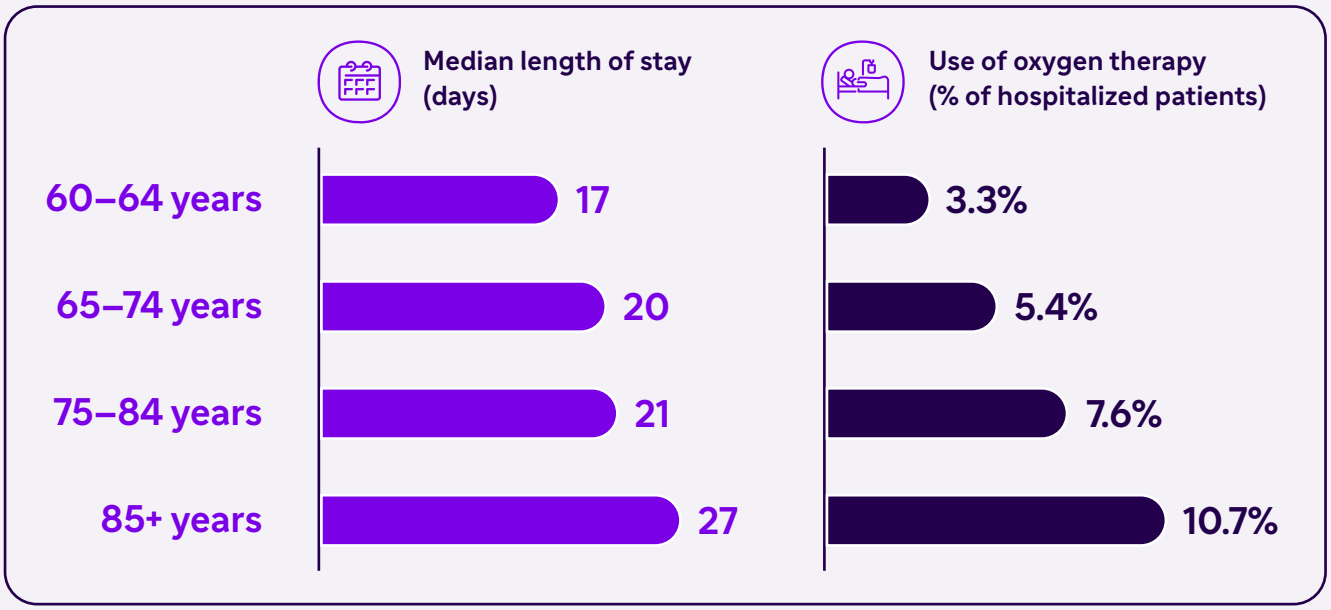
1 Influenza-related hospitalizations become more common with age[7*]

Average seasonal incidence of influenza-related hospitalization (per 100,000 adults)



2 Influenza-related hospital stays become longer with age[6*]

Among patients hospitalized with laboratory-confirmed influenza†



** Hagiwara et al. (2022)[6] and Arashiro (2024)[7] were Sanofi-sponsored studies.*

† Four influenza seasons (2010/11–2013/14).

3 Influenza-related hospitalizations carry substantial direct medical costs[7*]

Mean 60-day medical cost associated with an influenza hospitalization



¥679,552

per patient

Influenza hospitalization (all cases)



¥795,620–¥898,717

per patient

When potential influenza complications were included, depending on the study definition

The resource burden of hospitalization also increases across the care pathway.[6] In a separate Japanese real-world study, median hospital stay among patients with laboratory-confirmed influenza increased from **17 days in adults aged 60–64 years to 27 days among those aged 85+**, **while use of oxygen therapy also increased with age**.[6]

Hospital episodes such as this can carry substantial direct medical costs.[7] Across four influenza seasons, the mean 60-day medical cost associated with an influenza hospitalization was **¥679,552** per patient.[7] When broader potential influenza complications were included, mean costs ranged from approximately **¥795,620** to **¥898,717** per patient, depending on the conditions included in the analysis.[7]

With hospitalization rates rising markedly with age, preventing severe influenza among Japan's older population has implications not only for individual health, but also for hospital capacity and healthcare expenditure. This reinforces the importance of vaccination strategies that account for increasing age-related risk, including the role of age-specific influenza vaccination.

** Hagiwara et al. (2022)[6] and Arashiro (2024)[7] were Sanofi-sponsored studies.*

Japan's influenza vaccination policy is beginning to differentiate protection by age

Japan has an established national routine influenza vaccination program for adults aged 65+, as well as adults aged 60–64 years with specified serious underlying conditions.[2,8] The program is intended to prevent influenza and severe disease outcomes among populations at increased risk, with vaccination offered once annually during the autumn and winter.[2,8] **However, until recently, Japan's routine influenza vaccination program did not preferentially recommend an age-specific influenza vaccine for adults aged 65+, with standard-dose influenza vaccines remaining the available option.**[2,9] This is notable given the previously presented data showing that the risk of influenza-related complications, hospitalization, and mortality increases substantially with advancing age.

In November 2025, the Ministry of Health, Labour and Welfare (MHLW) policy body agreed that an age-specific influenza vaccine should be introduced for routine vaccination in adults aged 75+.[9] However, the necessary regulatory provisions had not yet been finalized as of February 2026, and age-specific influenza vaccination has not yet been implemented within the NIP.[9] This proposed implementation threshold was narrower than the initially approved age range and should therefore be understood as a programmatic starting point rather than the age from which age-specific vaccination may be relevant.

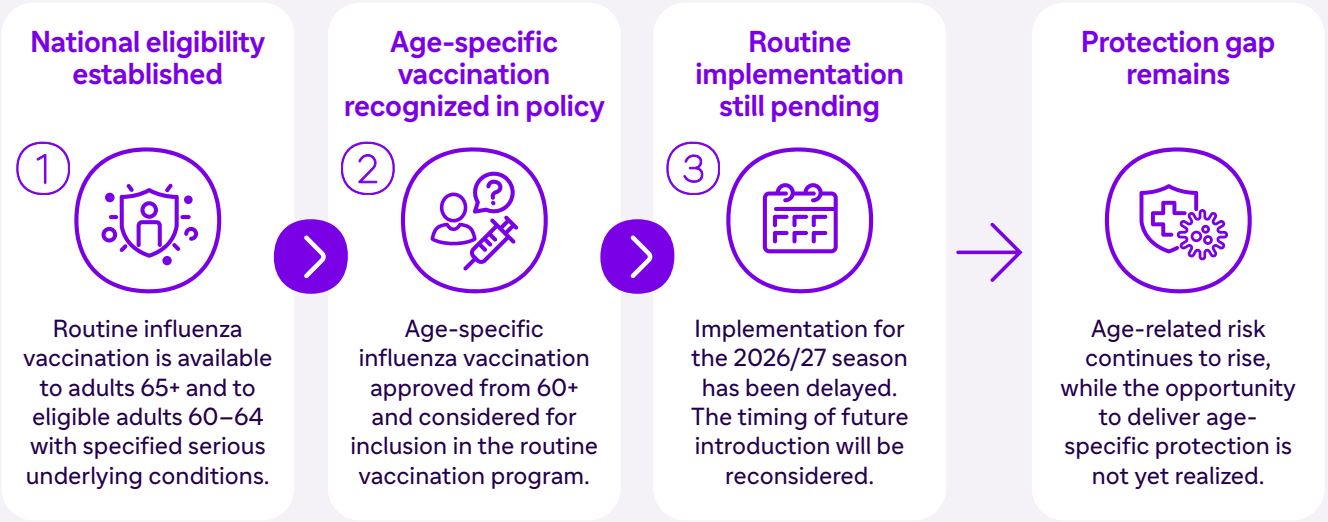
As Japan continues to develop its vaccination policy, there is therefore an opportunity to consider age-specific vaccination more broadly across older age groups, helping to align protection more closely with age-related risk.

While Japan's routine influenza vaccination program already prioritizes adults based on age and risk, **an age-specific influenza vaccine is not yet available within the program.**[10]

Japan therefore remains in transition: policy discussions have begun to recognize the role of age-specific influenza vaccination, but this approach is not currently part of routine influenza vaccination practice. As policy continues to evolve, there is an opportunity to consider how age-specific vaccination could support improved vaccination coverage and protection against influenza across the older adult population, rather than focusing only on the oldest age groups.

Policy-to-protection gap: From policy to real-world protection

Japan has strong policy foundations, but a **gap remains before age-specific vaccination is delivered routinely**.



The opportunity: Accelerate the translation of policy into routine practice to strengthen protection across Japan's growing older-adult population.

Closing the gap between policy and protection

Three priorities emerge from the evidence in this chapter: reversing the decline in vaccination coverage, broadening consideration of age-specific vaccination across older adulthood, and improving the timeliness and completeness of coverage data so gaps in protection can be identified and addressed more effectively.

1 Reverse the decline in influenza vaccination coverage among adults aged 65+



Challenge

Influenza vaccination coverage has declined overall in recent seasons, **falling from 65.6% in 2020/21 to 50.4% in 2024/25 and remaining below the WHO target of 75%**.[4,5]

Opportunity

Strengthen vaccination uptake among adults aged 65+ by **reinforcing the importance of annual influenza vaccination**, supporting vaccine confidence, and addressing barriers that may contribute to lower uptake.

How this could be achieved

- **Strengthen communication and engagement with adults aged 65+** to support vaccine confidence, address hesitancy, and reinforce awareness of the risk of severe influenza with age.
- **Use national and municipality-level coverage data** to identify areas of lower uptake and target communication and outreach accordingly.

2 Broaden consideration of age-specific vaccination across older adulthood



Challenge

Age-specific vaccination is beginning to be recognized within Japanese policy discussions, but **the initial proposed routine program population focused on adults aged 75+**, despite influenza-related complications increasing progressively across adults aged 60+.

Opportunity

As policy continues to evolve, **consider age-specific vaccination across a broader older-adult population** so that vaccination approaches better reflect age-related risk.

How this could be achieved

- Continue to review **how age-specific vaccination could be incorporated across older age groups** as evidence and policy evolves.
- **Ensure future implementation considers access across the broader older-adult population** rather than focusing only on the oldest age groups.

3 Improve the timeliness and completeness of vaccination coverage data



Challenge

The latest routinely available national vaccination coverage data relate to the 2024/25 season, **limiting visibility of current uptake**. In addition, **gaps in the completeness and granularity of available data** can make it harder to understand where protection gaps are emerging and which older-adult groups may be most affected.

Opportunity

Strengthen vaccination monitoring so that more complete and timely data are available to support faster identification of coverage gaps and more targeted action.

How this could be achieved

- **Improve the timeliness and completeness** of national and municipality-level vaccination coverage reporting.
- **Use more detailed coverage data** to identify emerging gaps across older-adult groups and assess whether policy changes are translating into increased uptake.

Methodology

Flunomics brings together **publicly available epidemiological**, **vaccination**, **economic and policy evidence** to examine **how influenza affects older adults** across **nine countries**:



Together, these data provide a broader understanding of how influenza burden, protection, and health system performance interact in aging populations.

The report incorporates **the most recent evidence available for each country at the time of analysis**, including data from the **2025/26 influenza season where published**. Where newer surveillance data were not yet available, the latest validated national datasets and longer-term trends were used to provide context. As reporting schedules differ between countries, the reference period varies by market.

The evidence framework

Flunomics examines five interconnected dimensions of protection:

Dimension	Focus
Epidemiological impact	Influenza burden, including cases, hospitalizations, ICU admissions and mortality, with a focus on older adults.
Vaccination coverage	Influenza vaccination coverage trends among older adults, including the most recent publicly available national estimates.
Economic impact	Published evidence describing the direct and indirect costs of influenza to individuals, health systems and society.
Policy & system impact	How vaccination recommendations are implemented in practice, including delivery, access, surveillance and system performance.
Opportunity	Evidence-informed opportunities to strengthen protection for older adults based on observed burden and implementation gaps.

Country approach

Each country chapter follows a consistent analytical framework comprising five sections:

1. **Epidemiological impact**
2. **Vaccination coverage**
3. **Economic impact**
4. **Policy & system impact**
5. **What needs to change**

Recognizing that **health systems are organized differently across countries**, policy and system analyses are undertaken either at national level or through selected regional case studies, depending on how influenza vaccination programs are delivered. This approach allows the report to assess how policy translates into real-world protection while respecting **differences in governance**, **implementation and data availability**.

Interpreting the findings

Flunomics is intended to **support informed discussion rather than direct comparison between countries**. Surveillance systems, case definitions, reporting practices, age thresholds and data availability differ substantially across markets. As a result, vaccination coverage is the only indicator presented comparatively across all countries; all other findings are interpreted within their national context.

Where evidence gaps exist – particularly in age-specific hospitalization, mortality or economic data – they are explicitly identified throughout the report. These **gaps are treated as important findings**, highlighting **opportunities to strengthen surveillance**, **improve visibility of influenza burden and better inform future policy and implementation**.

Dr Marco Del Riccio contributed the foreword and provided scientific advice on the identification, interpretation, and presentation of evidence included in this report.

Survey research element

To support the findings of this report and further explore the burden of influenza in each of the countries covered by this report, **Sanofi sponsored an independent survey of frontline healthcare professionals (HCPs)** to understand real-world perspectives on optimizing influenza protection among older adults, the extent and challenges of annual flu burden, and how well existing guidelines translate into successful implementation.

Ipsos, a market research agency based in the UK, conducted the research on behalf of Sanofi. The following table summarizes the key aspects of survey design.

Survey parameters	
Data collection:	Computer-Assisted Web Interviewing (CAWI). A semi-structured questionnaire designed to collect both quantitative metrics (closed list, option select, rating scale, numeric responses) and qualitative feedback (open-ended free-text response), rendered for online self-completion by respondent. All respondents were self-selecting, all data shown is therefore based on those healthcare professionals who chose to take part in the survey
Sample type:	Non-probability, unstratified, therefore not designed to be statistically representative of the respective HCP universes in each country. Instead, specific minimum numerical targets for subgroups (region, years in practice, practice type) were applied to ensure a good level of sample diversity and geographical coverage
Sample source:	Online panels of relevant HCPs who have opted-in to receive invitations to participate in market research surveys
Sample size:	n=1353 across 8 countries and 5 HCP classifications (countries/HCP types per table below)
Sample quotas:	Applied to country and HCP type within country (see quota table below)
Data analysis:	• Responses aggregated into simple descriptive statistics (e.g. percentage of sample selecting response option/range of response or mean score for numeric responses) • Open-ended/free-text questions were analyzed by generative AI and organized into response themes (percentage of sample where all or part of response attributed to derived theme) • No weighting or calibration applied to dataset
Eligibility and screening criteria:	• Must have spent between 3-40 years working within current role • Must spend 70% of professional time in clinical setting (seeing patients/customers) • GPs/FPs/Nurses working in clinic/office-based practices; Pharmacists working in retail pharmacies (single location or with multiple branches under same ownership); Specialists working in clinic/medical centers or in hospital settings; Cardiologists must not be working in specialized fields only • Minimum 150 (primary care HCPs) and 100 patients (secondary care HCPs) seen in a typical month and at least 20% within defined older age category • No pharmaceutical company work as consultant or researcher
Fieldwork dates:	28th May to 13th July 2026 inclusive

Survey sample size by country and HCP type									
HCP type*	England	France	Germany	Italy	Spain	Portugal	Canada	USA	Total
Primary care									
GP/FP*	100	101	100	101	54	50	51	155†	**712**
Retail Pharmacist	-	50	51	-	-	-	31	54	**186**
Nurse	-	-	-	-	51	-	-	-	**51**
Secondary care									
Pulmonologist	50	50	-	-	-	-	-	-	**100**
Cardiologist	-	50	50	-	53	50	51	50	**304**
Total	**150**	**251**	**201**	**101**	**158**	**100**	**133**	**259**	**1353**

** HCP = healthcare professional; GP = general practitioner; FP = family practitioner.*

† 50 working in health systems/large clinics and included internal medicine working in primary care.

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