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Longevity Centre UK

Flu Forward

Influenza innovation for healthy ageing



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Flu Forward: Influenza innovation for healthy ageing

Flu vaccination in an ageing society – the benefits go beyond preventing just the flu

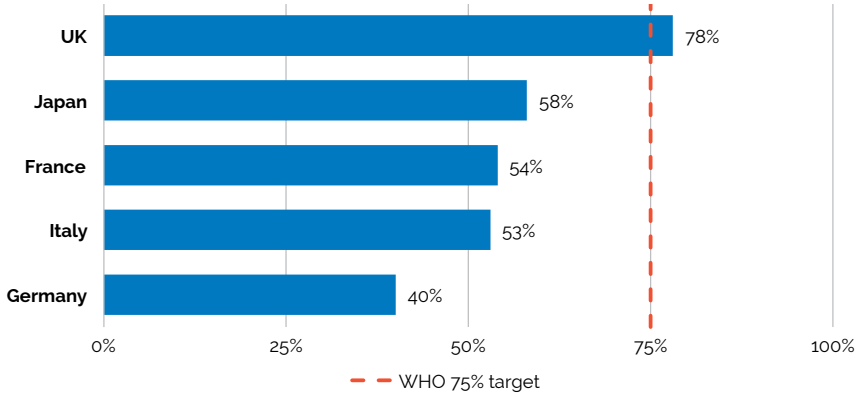
Growing evidence demonstrates that vaccines are now going beyond their traditional scope of preventing infectious disease and can also reduce the risk of non-communicable diseases (NCDs), offering profound public health benefits. To maximise these population-wide outcomes, policymakers should champion vaccination as a vital, dual-purpose strategy for both infection control and NCD prevention.

Influenza (flu) is not only a respiratory illness. It can trigger heart attacks, strokes and heart failure, so preventing flu is also cardiovascular prevention. Using flu vaccines that protect better than non-adjuvanted standard-dose vaccines has the potential not only to prevent flu but also to produce wider benefits, including a reduction in all-cause hospitalisations and healthcare costs.

The current picture on flu vaccination in Europe and Japan

FLUNITY-HD compares high-dose with non-adjuvanted standard-dose flu vaccine. The admissions and cost figures below apply to that comparison. We've used FLUNITY-HD data and coverage figures from the 2023/24 flu season to model different scenarios on increased coverage rates and lower age recommendations in five countries: France, Germany, Italy, Japan and the UK.[1]

Figure 1: Vaccination coverage, adults aged 65+, 2023/24

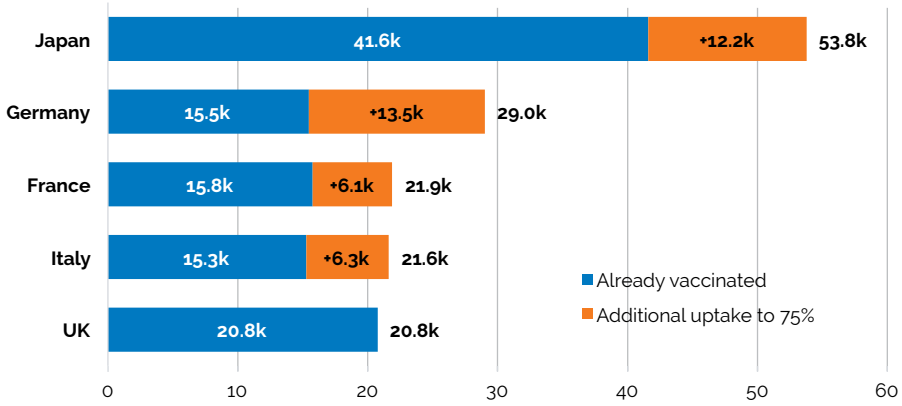


[1]UK data varies between England and UK – see Annex for more details.

For most of these countries, flu vaccination coverage falls well below the 75% target for over-65s established by the WHO. If vaccination rates are low, then high-dose vaccines will have a limited effect. So, the biggest priority must be to increase uptake. Yet even with current uptake levels, we find that across these five countries, adopting high-dose vaccines could **prevent 109,000 hospital admissions among older adults** compared with non-adjuvanted standard-dose vaccines.

If these countries could increase uptake, though, the benefit would be more significant. At 75% coverage of the flu vaccine in these countries, **a further 38,000 hospitalisations could be prevented. That's 147,000 hospital admissions that could be prevented in total, if everyone vaccinated received a high-dose rather than a non-adjuvanted standard-dose flu vaccine.**

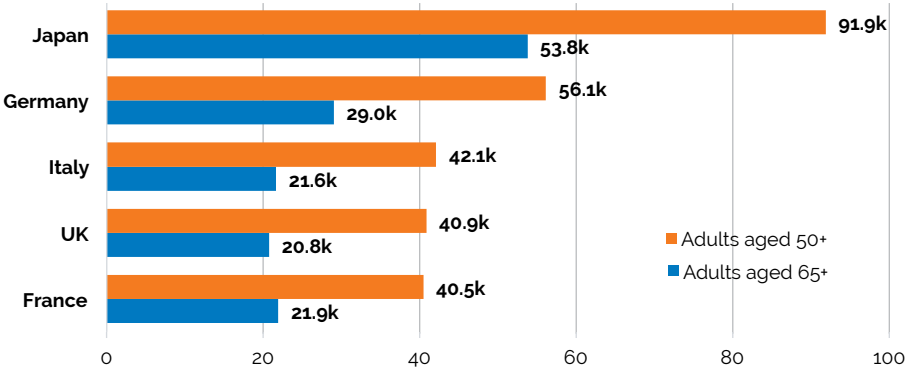
Figure 2: Incremental all-cause hospital admissions avoided, high-dose vs non-adjuvanted standard-dose, thousands, adults aged 65+



What if we lowered the eligibility age from 65 to 50?

While FLUNITY-HD looks only at adults aged 65 and over, we have used the study to estimate the impact of flu vaccination for adults aged 50–64. We find that **offering a high-dose flu vaccine from age 50 and hitting 75% uptake could prevent 271,000 admissions, compared with 147,000 for over-65s (both compared with non-adjuvanted standard-dose vaccine).**

Figure 3: Incremental all-cause hospital admissions avoided, high-dose vs non-adjuvanted standard-dose vaccine, thousands, adults aged 50+ versus adults aged 65+



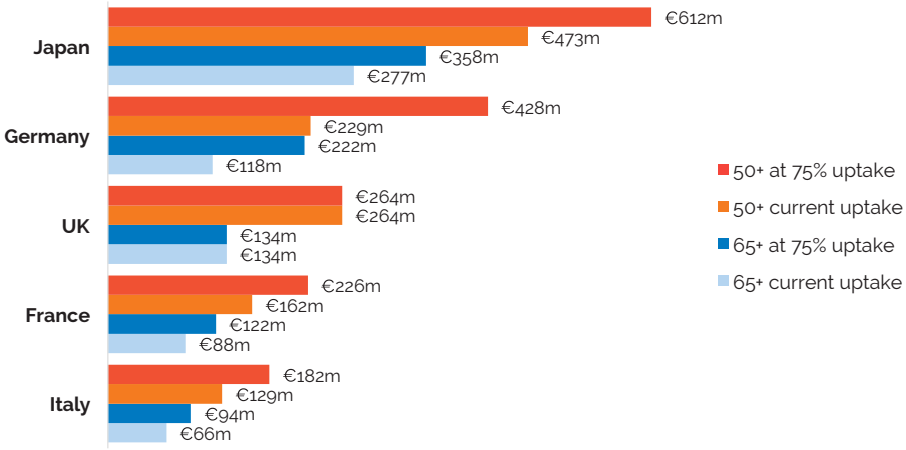
Japan would avoid 91,900 and Germany 56,100 hospital admissions. In the UK, avoided admissions would almost double – from 20,800 to 40,900. France and Italy would see similar results.

Alongside using high-dose vaccines, lowering the flu vaccination eligibility age to 50 could have significant health and economic benefits, enabling a broader cohort of adults to receive better protection from flu for a much longer period of their lives and during a time when they are still economically active.

There are large cost savings to be made by using high-dose flu vaccines

Fewer flu admissions mean lower hospital costs. We estimate direct savings of €683 million across the five countries if over-65s receive a high-dose rather than a non-adjuvanted standard-dose vaccine at today's uptake. **If adults aged 50 and over receive it at 75% uptake, savings reach €1.7 billion at 2025 prices.**

Figure 4: Direct hospital savings, high-dose vs non-adjuvanted standard-dose vaccine, € million (2025 prices)



The potential savings across these five countries are significant:

- **Japan – €612 million**
- **Germany – €428 million**
- **UK – €264 million**
- **France – €226 million**
- **Italy – €182 million**

Germany's savings more than triple between the lowest and highest scenarios, from €118 million to €428 million. In the UK, where coverage is already strong, these savings would almost double from €134 million to €264 million if flu vaccination started at 50. These are just hospital savings – the broader societal and economic impact may be even larger.

Consensus statement

We call on policymakers and health stakeholders to strengthen their flu vaccination programmes as follows:

1. Position flu vaccination as core prevention for healthy ageing

Recognise flu as a serious risk as we age and for people who are clinically vulnerable, not a minor seasonal illness. Take a life course approach and embed flu vaccination in healthy ageing plans, NCD strategies (such as the EU's Safe Hearts Plan) and respiratory health plans, to reduce all-cause and cardiorespiratory hospitalisations and ease winter pressures. Reflect the full system benefits of reduced hospitalisation and wider societal costs within health technology assessment and budget planning. Improve surveillance of uptake, effectiveness and outcomes to capture the wider economic benefits.

2. Make flu vaccination part of cardiovascular prevention

Cardiology societies and health ministries should include annual flu vaccination in cardiovascular guidelines, care pathways and secondary prevention, alongside other risk-reduction measures. Make it standard practice in respiratory, diabetes and multimorbidity pathways too, with specialists taking responsibility for vaccination and vaccinating patients in accessible settings. Commit to cross-sector leadership to embed flu prevention within long-term healthy ageing frameworks, and carry EU policy frameworks through into national healthcare delivery mechanisms.

3. Give older adults access to vaccines that offer better protection against flu and its complications

Ensure access to age-appropriate vaccines, including formulations where evidence shows superior protection, and to new vaccines and technology that are leading to good outcomes.

4. Drive high and equitable uptake through access and positive communication

Set ambitious coverage targets and address inequalities in access, awareness and confidence. Remove barriers, including out-of-pocket costs, and make access universal through pharmacies and, for clinical risk groups, hospitals. Healthcare professionals should use positive language that focuses on quality of life rather than mortality and makes clear what patients gain from vaccination. Involve health groups and patient organisations in vaccine communications, and learn from other NCD communities.

5. Consider lowering the flu vaccination eligibility age to 50

Review national eligibility criteria with a view to offering flu vaccination from age 50. Our modelling suggests that, with high-dose vaccine, this could prevent many more hospital admissions and protect a broader cohort of adults for longer, while they are still economically active.

Annex: methods and assumptions

Overview

The analysis estimates how many hospital admissions could be avoided, and what direct hospital costs could be saved, if older adults received high-dose influenza vaccine (HD-IIV) instead of non-adjuvanted standard-dose vaccine (SD-IIV). It covers France, Germany, Italy, Japan and the United Kingdom.

All estimates are incremental. They compare high-dose with non-adjuvanted standard-dose vaccine among people who are vaccinated, not vaccination with no vaccination. They are indicative estimates from a policy scenario model, not a full health-economic evaluation. The model does not estimate deaths, quality-adjusted life years, productivity, long-term care costs or effects on transmission.

Data sources

Clinical effect sizes come from FLUNITY-HD (Johansen et al., *The Lancet*, published online 17 October 2025, doi:10.1016/S0140-6736(25)01742-8). This is a pre-specified, individual-level pooled analysis of two pragmatic, randomised trials: DANFLU-2 in Denmark (adults aged 65+, 2022–25) and GALFLU in Galicia, Spain (adults aged 65–79, 2023–25). It randomised 466,320 people and reported the number needed to vaccinate (NNV) for each hospitalisation endpoint.

The other inputs are:

- **Population:** UN World Population Prospects 2024, medium variant, 2025 reference year.
- **Vaccination uptake:** OECD *Health at a Glance 2025*, Figure 6.2 – share of adults aged 65+ vaccinated against influenza, 2024.
- **Hospital costs:** official national cost per admission in each country (see costing section).
- **Prices and exchange rates:** national health price indices and European Central Bank (ECB) 2025 annual average reference rates.

Country	Population 65+ (m)	Population 50+ (m)	Uptake 65+, 2024	Cost per admission (€, 2025 prices)
France	15.0	27.8	54%	5,575
Germany	19.9	38.5	40%	7,637
Italy	14.8	28.9	53%	4,327
Japan	36.9	63.1	58%	6,664
United Kingdom	13.7	27.0	78%	6,462

Uptake scenarios

Each country is modelled at two levels of uptake:

- **Current uptake:** everyone vaccinated today receives high-dose rather than non-adjuvanted standard-dose vaccine.
- **75% uptake:** uptake rises to the 75% benchmark for older adults set by the WHO, and everyone vaccinated receives high-dose vaccine. The UK already exceeds 75%, so its current uptake of 78% is kept rather than reduced.

The 75% scenario includes the currently vaccinated population. The extra benefit from raising uptake is the 75% result minus the current-uptake result. The two results should never be added together.

Estimating avoided admissions

Avoided admissions are the vaccinated population divided by the FLUNITY-HD NNV. The NNV is the number of people who need high-dose rather than non-adjuvanted standard-dose vaccine to prevent one extra hospital admission.

Avoided admissions = (Population × Uptake) ÷ NNV

The charts use all-cause hospital admissions, with an NNV of 515 (95% CI 278–3,929). All-cause admissions are used rather than the trial's primary endpoint (influenza or pneumonia, NNV 1,839) because they do not depend on how countries code diagnoses or test for influenza. The FLUNITY-HD authors note that the all-cause result was consistent

across both trials. Narrower endpoints are subsets of all-cause admissions, so results for different endpoints overlap and cannot be added.

For example, a country with 10 million adults aged 65+ and 50% uptake has 5 million vaccinated people. Dividing by 515 gives about 9,700 avoided all-cause admissions.

Adults aged 50+ (exploratory)

The 50+ scenario uses the same formula and NNV, applied to the population aged 50 and over. FLUNITY-HD enrolled only adults aged 65+, so this assumes the relative benefit of high-dose vaccine is the same in people aged 50–64. That has not been tested in a trial, and the 50+ results are exploratory.

No comparable uptake data exist for people aged 50–64, so their uptake is assumed to match the 65+ cohort. Most national programmes fund vaccination only from age 65, so this probably overstates current uptake among 50–64s and the current-uptake result for this group. The 75% result does not depend on this assumption, because uptake is set to 75% for everyone (78% in the UK).

Costing

Direct savings are avoided all-cause admissions multiplied by each country's average cost per hospital admission. No source publishes harmonised costs across all five countries, so each uses its own official national figure:

- **France:** ATIH national cost study (ENC MCO), 2023 – mean cost of an overnight stay in a public hospital.
- **Germany:** Destatis hospital cost statistics, 2023 – total hospital costs divided by inpatient cases.
- **Italy:** Istituto Superiore di Sanità (ISS), 2019 – acute care spending divided by acute admissions.
- **Japan:** Ministry of Health, Labour and Welfare (MHLW), 2020 – inpatient spending divided by discharges.
- **United Kingdom:** NHS England National Cost Collection, 2022/23 – non-elective inpatient unit cost.

Each cost is restated to 2025 prices with the country's official health price index: Eurostat HICP Health for France, Germany and Italy, ONS CPI Health for the UK and the Statistics Bureau of Japan medical-care index. This adds between 4% (Japan) and 14% (UK). Costs are converted to euros at ECB 2025 annual average rates (€1 = £0.857 = ¥169.04). These are market rates rather than purchasing power parities, so the figures show nominal budget impact.

Key assumptions and limitations

- **Transfer of trial results:** FLUNITY-HD was run in Denmark and Spain. Applying its NNV elsewhere assumes the relative benefit holds across health systems with different care pathways. The trial found consistent effects across age, sex and chronic conditions, but no comparable trial exists in the five study countries.
- **Statistical uncertainty:** the all-cause NNV has a wide confidence interval (278–3,929). Central estimates are used throughout.
- **Full switch:** everyone vaccinated is assumed to receive non-adjuvanted standard-dose vaccine now. Comparable data on vaccine type are not available.
- **Cost definitions:** national cost figures differ in scope (overnight stays, all inpatient cases, emergency admissions or total spend divided by admissions). Most are all-age averages, which may understate costs for older adults. The five-country total is more reliable than comparisons between countries.
- **No effect on deaths:** FLUNITY-HD found no significant difference in mortality, so the results cover hospital admissions only.
- **UK data:** costs are for England (NHS England). Population is for the whole UK, and uptake is the OECD figure for the UK.

About *Flu Forward*

The *Flu Forward* project builds on the findings from the FLUNITY-HD study to better understand how adopting specially tailored flu vaccines could support health systems. Through this project, the ILC has been speaking to experts across Europe to build a consensus on how best to utilise these vaccines to support healthy ageing. The final consensus statement has been informed by expert discussions hosted in Brussels (June 2026) and Amsterdam (July 2026), as well as one-to-one conversations with leading health stakeholders.

Sanofi has provided a financial contribution in the form of a grant to ILC's "Flu Forward: Influenza Innovation for Healthy Ageing" project. ILC retains full editorial control over all project materials.

About ILC

ILC is the leading authority on the impact of longevity on society. We are at the forefront of global policy on ageing and longevity.

We combine evidence, solutions and networks to make change happen. We help governments, policymakers, businesses and employers develop and implement solutions to ensure we all live happier, healthier and more fulfilling longer lives.

We want a society where tomorrow is better than today and where future generations are better off. ILC wants to help forge a new vision for long lives where we all have the opportunity to learn across our lives and where new technology helps us contribute more to society.

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