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Influenza, Healthy Ageing and Economic Resilience in Japan

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Executive summary

Influenza poses a significant public health and economic challenge for Japan: one that is set to increase as the country's population ages. The high-dose influenza vaccine offers a promising and cost-effective way to mitigate this by bolstering protection for the elderly.

The elderly are more vulnerable to influenza due to weaker immune systems and a higher prevalence of chronic health conditions. While influenza can cause mild to severe illness in most people, the elderly face a significantly increased risk of complications, hospitalisation and even death. This places a substantial burden not only on individuals and caregivers but also on Japan's healthcare system. With the world's highest life expectancy and a rapidly ageing population, Japan must prepare for growing challenges posed by influenza infections among its elderly citizens.

Influenza also poses a high economic cost. As Japan's population ages, demands on healthcare resources and caregivers will inevitably rise. Alongside this, the working-age population is projected to fall, with knock-on effects on economic growth and government budgets. To sustain economic resilience and ease pressure on the welfare state, the government of Japan is encouraging older adults to work for longer – potentially into their 70s. But the success of these efforts depends on keeping older adults healthy, and that means tackling illnesses that take people out of the workforce or force them into long-term care.

The World Health Organisation (WHO) recognises the influenza vaccine as the most effective intervention for reducing the impact of seasonal influenza. And as with most preventative healthcare, vaccination programmes deliver long-term gains more broadly: both for public health and economic sustainability.

High-dose influenza vaccines have been shown to provide better protection for older adults than standard-dose formulations. Studies also show higher efficacy and better protection against influenza-derived illnesses such as pneumonia, along with heart attacks and hospitalisations. The high-dose formulation has proven to be a cost-effective investment in other countries. In the US, for example, it has prevented more than 1.3 million influenza cases and saved an estimated US$4.6 billion in healthcare costs (Net et al., 2021).

In December 2024, Japan's Ministry of Health, Labour and Welfare granted regulatory approval for Sanofi's high-dose influenza vaccine. The 2024–25 influenza season, which began prior to its approval, saw a particularly severe outbreak in Japan, highlighting the growing vulnerability of older adults. Including the vaccine in the National Immunisation Programme would help ensure access for those most at risk in the future.

For Japan, the question is no longer whether high-dose vaccination works, but how quickly its timely inclusion in the National Immunisation Programme could support public healthcare systems and economic objectives.

The key findings of this report, which was based on fieldwork conducted in Tokyo – including a roundtable with healthcare experts, in-depth interviews and supporting desk research – are as follows:

- Japan's ageing population faces higher risks of – and from – influenza, given that elderly people are more vulnerable to severe illness, hospitalisation and death.
- Influenza places a significant and rising burden on the healthcare system, particularly in hospitals and care homes.
- The high-dose influenza vaccine offers superior protection for older adults compared with the standard-dose vaccine – reducing illness, hospitalisations and mortality.
- In Japan, only standard-dose influenza vaccines are currently available, and uptake remains suboptimal: just 56 per cent of the elderly receive annual flu vaccinations, well below the 75 per cent WHO target (OECD, n.d.). Misinformation, low awareness, a lack of trust and inequitable funding may act as barriers.
- Influenza vaccinations are a cost-effective health intervention, with evidence from many countries such as the US and France showing major public health gains and healthcare savings from high-dose vaccine use.
- The Japanese government aims for people to work longer. Preventative healthcare is key to maintaining a healthier, more resilient workforce.
- A coordinated, multi-stakeholder approach is key to ensuring successful rollout of the vaccine, improving awareness and increasing uptake among Japan's elderly population.

Introduction

Japan is in the midst of one of the most significant demographic transitions of any advanced economy. With the highest life expectancy in the world and consistently low and shrinking birth rates, its population is both shrinking and ageing. As of 2023, 31.7 per cent of people in Japan were aged 65 or older: a figure projected to top 37.4 per cent by 2050 (WHO, n.d.). At the same time, the working-age population is projected to decline, placing mounting pressure on healthcare systems and economic growth. The central challenge is clear: how to support a rapidly ageing society while maintaining economic resilience.

One of the growing concerns associated with an ageing population is the increased vulnerability to infectious diseases, particularly seasonal influenza. Older adults are significantly more likely to suffer from severe complications from the virus due to weaker immune systems and the prevalence of chronic conditions. This leads to higher rates of health complications like pneumonia, hospitalisation and long-term care needs (CDC, n.d.). In the US, for example, adults aged 65 and over account for up to 70 per cent of flu-related hospitalisations and 85 per cent of deaths. In Japan's 2024/25 season, those aged 60 and over accounted for 64 per cent of hospitalisations (CDC, n.d.; MHLW, n.d.-a). The strain of acute illness is felt not only by individuals and their families but also on Japan's healthcare system, which must accommodate rising demand for services at a time when resources are already limited. Moreover, flu-related illness among the elderly can indirectly affect economic performance by increasing care responsibilities for family members and reducing the ability of older adults to remain in the workforce.

In response to its demographic crisis, Japan's government has introduced a series of measures aimed at extending working life and promoting healthy ageing, including legislative changes to support employment up to age 70. However, the success of these policies hinges on keeping older adults healthy and independent for longer. Preventive healthcare, particularly through effective vaccination strategies, will play a vital role. As this report shows, the high-dose influenza vaccine offers a timely and evidence-based solution to address the intersecting challenges the virus poses to public health, healthy ageing and economic resilience in Japan.

This report uses a multi-disciplinary approach to explore the impact of influenza and vaccinations on healthy ageing in Japan. It is based in part on a roundtable discussion held in Tokyo in April 2025, during which a range of experts, including virologists, gerontologists and health economists, explored the links between influenza, ageing and economic resilience. The themes and priorities identified during the roundtable shaped the direction of subsequent research. Additional insights were gathered through bilateral meetings and interviews with key stakeholders, including government officials, NGOs and policy specialists. This qualitative input was complemented by detailed desk-based research and analysis of national policies and epidemiological data to ensure a comprehensive and evidence-based assessment.

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CHAPTER ONE

INFLUENZA RISKS IN AN AGEING SOCIETY

Overview of influenza

The elderly are particularly vulnerable to influenza, a contagious respiratory disease which can range from mild to life-threatening. While anyone can contract the virus, those at higher risk of serious complications include people aged 65 and over, young children, pregnant women and individuals with chronic health conditions. The elderly are particularly vulnerable because their immune responses tend to be weaker and they have a higher likelihood of chronic health conditions, both of which can exacerbate the severity of flu and increase the risk of complications such as pneumonia and bacterial infections (CDC, 2024). People aged 65 and older account for 50 to 70 per cent of seasonal flu-related hospitalisations and 70 to 85 per cent of seasonal flu-related deaths in the US (ibid). In Japan, during the 2023/24 season, adults aged 60 and over comprised 43 per cent of all hospitalisations, with this figure increasing to 64 per cent in 2024/25 (MHLW, n.d.-a). As Japan's population continues to age, the impact of influenza on health services and long-term care needs is likely to grow.

> ***"Influenza in older adults not only increases the risk of severe complications and death but can also lead to significant declines in physical function and activities of daily living, affecting long-term independence."***
>
> *– Masahiro Ishikane M.D., Ph.D, Disease Control and Prevention Center, National Center for Global Health and Medicine and Japan Institute for Health Security*

Influenza affects people across the globe, and Japan has been grappling with a record number of cases. Globally, there are around one billion cases of seasonal influenza annually. Of these, three to five million cases are severe and 290,000 to 650,000 result in death (WHO, 2025). Japan's 2024–2025 flu season saw a significant rise in cases, with 9.5 million reported from September 2, 2024, to January 26, 2025, according to the National Institute of Infectious Diseases (CGTN, 2025). Cases rose to a record 317,812 in the week of December 23–29, 2024 – the highest number since the current surveillance system was introduced in 1999 (Nippon, 2025).

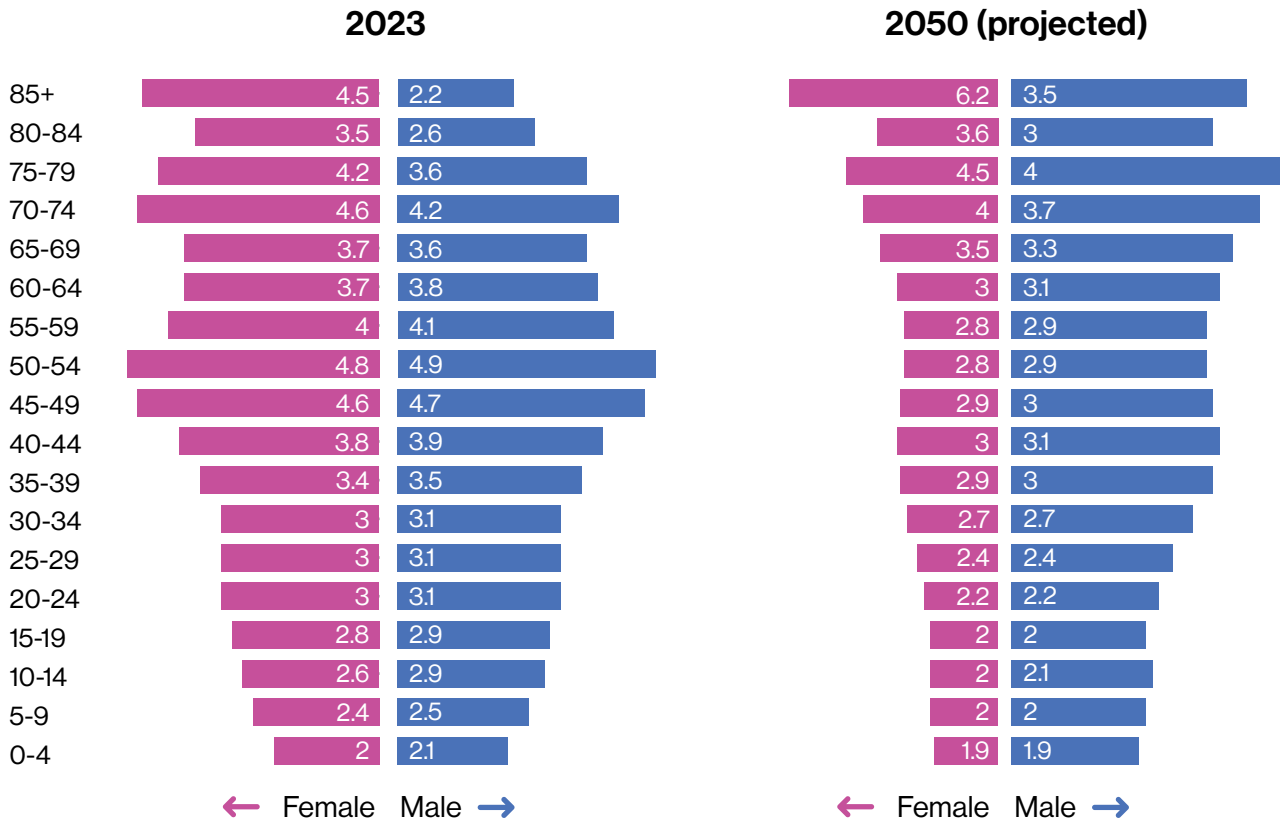
Vaccination is the most effective tool to prevent and reduce the impact of seasonal influenza, a virus that mutates numerous times each year and poses a recurring public health challenge. The World Health Organization (WHO) recommends that all countries consider implementing an influenza vaccination programme and specifically endorses an annual vaccine for vulnerable groups including older adults, with a target of 75 per cent coverage (WHO, 2024). Global strategies such as the WHO's Immunization Agenda 2030 and the UN Decade of Healthy Ageing urge a life-course approach to vaccination to support healthy ageing and prevent avoidable illness. While implementing life-course immunisation programmes may present initial logistical or funding challenges, failing to do so can lead to greater health, economic and social costs in the long term.

Japan's demographics: an ageing society

The ageing of Japan's population, driven by falling birth rates and rising life expectancy, will result in a growing share of residents facing an increased risk of serious complications from influenza.

In 2023, Japan's total population stood at 124.4 million. Of that, 31.7 per cent (39.4 million) were aged 65 and over (WHO, n.d.). Due to low fertility rates, the population is expected to decrease by 15 per cent by 2050, to 105.1 million (ibid). As shown in Figure 1, the proportion of older adults will rise significantly. By 2050, 37.4 per cent of the population will be aged 65 or older, and the largest cohort will be those aged 85 and above.[1] This projected demographic shift presents a dual challenge for Japan: a shrinking workforce and a rapidly growing elderly population increasingly vulnerable to influenza-related complications. To mitigate the health and economic impacts, sustained investment in healthcare will be essential. This includes not only acute care services, but also preventive strategies that reduce illness and delay functional decline.

Figure 1:
Japan's population by age and sex in 2023 and projected to 2050 (millions)

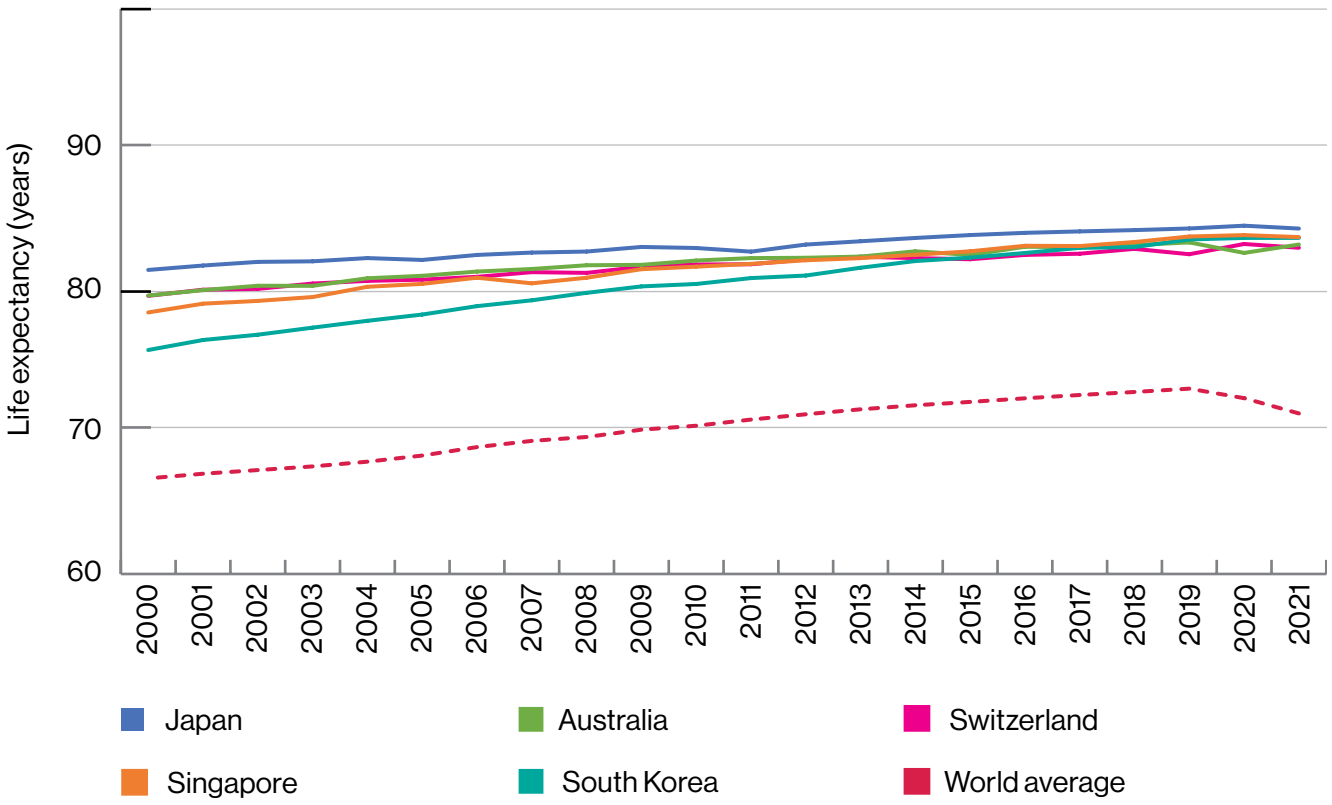


Source: WHO, n.d.

[1] Based on the age segments in Figure 1 (note the data does not record an upper bound for the 85+ group).

Japan has the world's highest life expectancy, making healthy ageing an increasingly important national priority. As can be seen in Figure 2, average life expectancy in Japan is 84.5 years (87.2 for women, 81.7 for men) – well above the global average of 71.4 years. However, for healthy life expectancy – the average number of years a person can expect to live in full health – Japan ranks second globally at 73.4 years, just below Singapore's 73.6. (WHO, n.d). The 11-year gap between overall and healthy life expectancy in Japan highlights the fact that the aged often face a prolonged period of declining health in later life: one that could lengthen as longevity increases. To support the elderly, Japan's government promotes a healthy diet, active lifestyle, community care and annual immunisations. With the world's highest proportion of centenarians – 0.06 per cent of the population is 100 years old or older – Japan must strengthen preventive healthcare, including immunisation of the elderly, to ensure longevity is matched by quality of life.

Figure 2:
Top five countries with the highest life expectancy



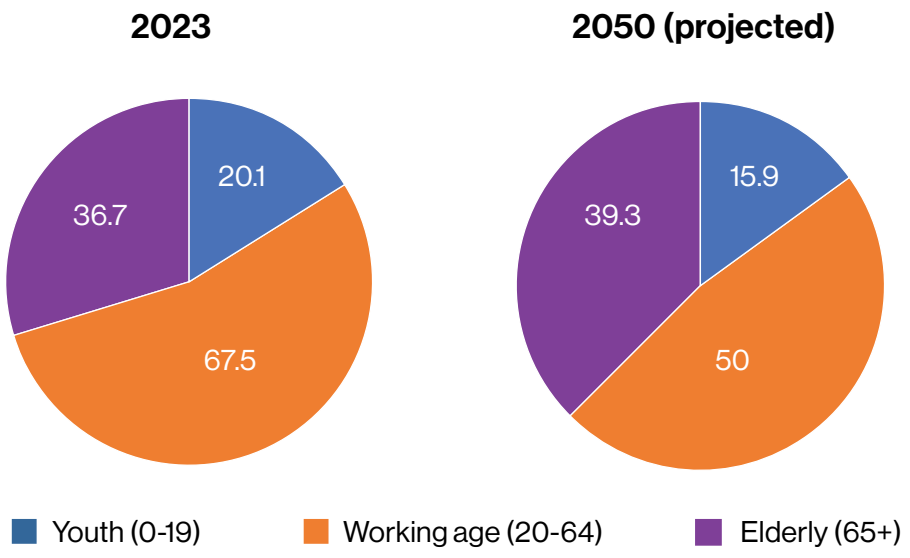
Source: WHO, n.d.

Government strategy for longer workforce participation

The Japanese government has introduced policies to support workforce participation up to age 70 to address the challenges associated with a shrinking workforce and ageing population. In 2021, the government revised the Act on Stabilization of Employment of Elderly Persons to require companies to make efforts to secure employment opportunities for individuals up until age 70 (MHLW, 2024). This includes steps such as raising or abolishing the mandatory retirement age and introducing continuous employment systems under which an employee who reached the mandatory retirement age would be re-employed (Transatlantic Law, 2021). Furthermore, the Ministry of Health, Labour and Welfare provides subsidies to employers who transition older fixed-term contract workers into permanent positions. These policies are essential to meet the objectives set out by Japan's Aging Society Policy Council, which aims to build an "ageless society" whereby "people of all generations, including the elderly, can take full advantage of their skills and abilities to play an active role in a range of areas" (Cabinet Public Affairs Office, 2018). Such measures will sustain the country's economic productivity while promoting healthy ageing.

It is essential for Japan to extend workforce participation among older adults to ensure long-term economic resilience through this demographic shift. As Japan's population declines, the working-age group is also set to fall. The WHO projects that the number of people aged 20-64 in Japan will decline from 67.5 million in 2023 to 50 million in 2050, reducing its share from 54 to 48 per cent of the population, as seen in Figure 3 (WHO, n.d.) . This means there will be a smaller proportion of taxpayers to support a larger proportion of the elderly, which will place increasing pressure on public finances and pensions. Expanding employment among older adults can help offset the labour shortage, support productivity and maintain consumer demand, all of which are vital for sustaining growth in gross

Figure 3:
Japan's population by age group: 2023 vs 2050 projections (millions)



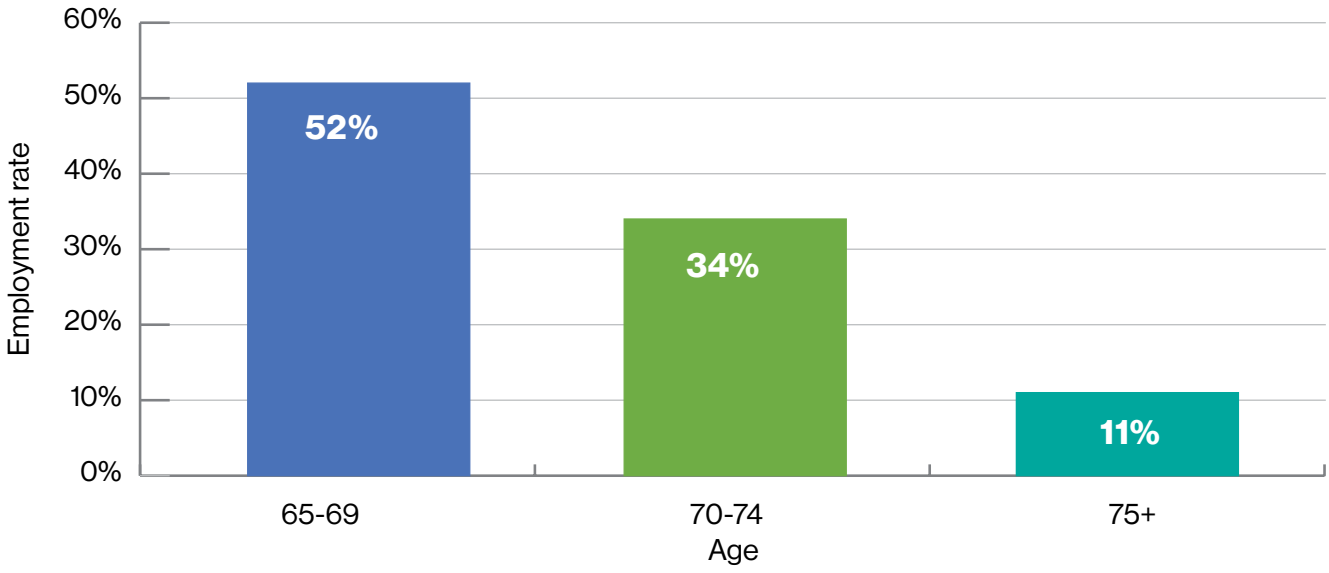
Source: WHO, n.d.

domestic product (GDP). Japan has one of the highest debt-to-GDP ratios globally, so increasing workforce participation among older citizens is critical for fiscal sustainability and growth.

Many elderly people in Japan wish to continue working, but poor health often limits their ability to do so. It is the practice among Japanese companies to set a mandatory retirement age. In recent years, this has generally increased from 60 to 65, but many older adults choose to continue working beyond these ages. Employment rates remain relatively high among older workers: 52 per cent for those aged 65–69, 34 per cent for ages 70–74, and 11 per cent for those 75 and older (Figure 4) (Nippon, 2024). There is clearly a strong willingness to work: a survey by the Ministry of Internal Affairs and Communications found that approximately 80 per cent of respondents wanted to continue working to age 65 or beyond (MHLW, n.d.-b). However, a Cabinet Office survey identified health issues as the most common reason for not working – one cited by 28.4 per cent of unemployed elderly respondents (Cabinet Office, 2024). As the government encourages longer working lives to support the economy, helping older adults stay healthy is essential – not only to meet labour needs, but also to support their desire to remain active and productive.

While employment and ageing policies are evolving, parallel investments in health – particularly preventative care – will be essential to ensure those goals can be met.

Figure 4:
Senior employment rate in Japan (2023)



Source: Ministry of Internal Affairs and Communications, 2024, cited in Nippon, 2024

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CHAPTER TWO

OVERVIEW OF THE HIGH-DOSE INFLUENZA VACCINE

This report examines influenza, vaccinations, healthy ageing and economic resilience in Japan. There is a specific focus on, and exploration of, the high-dose influenza vaccine, which recently gained regulatory approval from the Japanese government and presents an opportunity to provide better protection to Japan's ageing population.

History of influenza vaccines in Japan

Japan's influenza vaccination policies have evolved significantly over time. From 1962 to 1994, the government mandated flu vaccinations for schoolchildren to curb community transmission. This policy was halted amid public concern over side effects and doubts about effectiveness. In 2001, Japan shifted focus to protecting the elderly: the Preventive Vaccination Law was amended to recommend seasonal flu shots (in the National Immunisation Schedule B with local government subsidies) for adults aged 65 and above, and for those aged 60–64 with chronic conditions.

The concept of using high-dose influenza vaccines to provide better protection for older adults emerged globally in the 2000s. The first high-dose influenza vaccine was licensed in the United States in 2009. Its introduction prompted further research and adoption in several other countries. A high-dose trivalent flu vaccine (with four times the antigen per strain) was first licensed in the US for adults 65 and older, and showed superior protection compared with standard-dose vaccines. In recognition of the potential benefits of this approach, Japanese health authorities have in recent years explored high-dose influenza vaccines for older adults through clinical trials, policy discussions and ongoing regulatory consideration.

Sanofi's clinical trials in Japan have demonstrated that the high-dose influenza vaccine generates stronger immune responses in older adults than the standard-dose. Sanofi conducted local clinical trials of a high-dose quadrivalent influenza vaccine (QIV-HD) between 2019 and 2021. These proved that the vaccine was well-tolerated and raised no serious safety concerns.

After reviewing the trial results and global evidence, Japan approved its first high-dose influenza vaccine in late 2024. In December 2024, the Ministry of Health, Labour and Welfare (MHLW) granted Sanofi's quadrivalent high-dose intramuscular injection (QIV-HD) regulatory approval for use in adults aged 60 and older (Pharma Japan, 2025). This marked the formal introduction of high-dose flu vaccination in Japan's market. Sanofi's quadrivalent high-dose vaccine contains 60 µg of hemagglutinin per strain (four times the standard-dose) and is specifically designed to provide enhanced protection for seniors at high risk of severe influenza complications.

As of 2025, Sanofi's high-dose vaccine is the only high-dose seasonal flu vaccine approved for use amongst those 65 years and older in Japan and those aged over 60 with underlying health conditions. All other influenza vaccines on the market are standard-dose (SD) vaccines produced by domestic manufacturers such as The Kitasato Institute, Denka Seiken, and KM Biologics.

With Japan's large elderly population and a culture of annual flu vaccination, the high-dose vaccine is set to play a key role in reducing the influenza burden among seniors. As of early 2025, discussions were already underway to add Sanofi's high-dose influenza vaccine to Japan's National Immunization Program so that it becomes widely accessible to eligible older adults. Currently, the standard-dose influenza vaccine is provided to eligible older adults through Japan's National Immunization Program Category B (NIP B). This means the national government covers roughly 30 per cent of the vaccine cost (including vaccination fee), while the remaining 70 per cent is the responsibility of municipal governments. Municipalities may choose to pass this cost on to consumers or to subsidise it, meaning co-payments vary across the country.

Efficacy and safety of the high-dose vaccine versus the standard vaccine

In Japan, the standard-dose (SD) quadrivalent influenza vaccine has until now been the primary tool for preventing seasonal influenza in Japan. The standard-dose contains 15 µg of hemagglutinin per strain and has also been developed in both trivalent (SD-IIV3) and quadrivalent (SD-IIV4) forms (CDC, 2023). While standard-dose influenza vaccines are generally effective and well-tolerated, evidence suggests they may offer limited or waning protection for the elderly, likely due to age-related immune decline. Studies have shown that vaccine effectiveness declines in older adults, with some reporting diminished protection over time and variable effectiveness against medically attended influenza and hospitalisations (Uemura et al., 2023; Kasamatsu et al., 2023). Given the rapid ageing of Japan's population, there is growing recognition of the need for enhanced vaccine options that can better protect this vulnerable group.

Studies demonstrate that the higher-dose vaccines are more effective than the standard-dose vaccine at protecting against influenza. A systematic review of studies conducted over 12 influenza seasons that included more than 45 million participants shows that the HD-IIV was more effective than SD-IIV at reducing influenza and associated serious outcomes in people aged 65 years and older (Lee et al., 2023). A large-scale US study of more than 30,000 adults aged 65 and older found that the trivalent high-dose vaccine (HD-IIV3) was 24.2 per cent more effective than the standard-dose equivalent (SD-IIV3). This was demonstrated across comorbidities and across two influenza seasons (from 2011-2013) (DiazGranados et al., 2014).

The high-dose influenza vaccine has also been shown to reduce influenza-like illnesses (ILI) and hospitalisations – particularly in the oldest age groups. The HD-IIV3 provides better protection against ILI in those 65–74 years and ≥75 years, and against hospitalisation and emergency room visits in those ≥75 years and ≥85 years. It was consistently more effective than the standard-dose, irrespective of the season, age subgroups or whether the trial was a randomised control study or observational (Johansen et al., 2023). A further study showed that the high-dose vaccine also provides better protection against pneumonia-related hospitalisations, and cardiovascular, cardiorespiratory and all-cause hospitalisations (Lee et al., 2023).

The high-dose influenza vaccine was found to have a lower all-cause mortality rate than the standard vaccine. A study of more than 12,000 participants in Denmark aged 65 and older found that the high-dose quadrivalent influenza vaccine (QIV-HD) resulted in a 49 per cent lower all-cause mortality rate than the comparable standard-dose vaccine (QIV-SD) (Johansen et al., 2023). A further US study evaluated more than 44,000 influenza cases and found that influenza vaccination was associated with a 17 to 29 per cent reduction in 30-day mortality compared to unvaccinated individuals (Chaves et al., 2023). Within this study, the high-dose influenza vaccine also showed greater reductions in mortality compared with the standard-dose, although some findings were not statistically significant (ibid).

"The disease burden of seasonal influenza is high among the elderly, with many severe cases and deaths. Reducing its impact in this age group is a critical component of the seasonal influenza vaccination program. However, vaccine effectiveness is generally lower in the elderly than in younger age groups. Therefore, improved vaccines are needed to better protect the elderly. This is especially important in countries like Japan, where population ageing is rapidly advancing."

– Roundtable participant

International endorsements for the high-dose influenza vaccine

Numerous National Immunisation Technical Advisory Groups have supported the adoption of the high-dose vaccine, noting the superior protection it offers compared to the standard vaccine, as summarised in Figure 5.

While high-dose influenza vaccines are publicly funded in parts of Europe and several Canadian provinces, access and funding support vary across the globe. In many countries, they are recommended for older adults but not always funded, highlighting the importance of national policy in ensuring equitable access. In Canada, the Canadian National Advisory Committee on Immunization (NACI) recommends the high-dose vaccine over the standard-dose for the elderly, but the availability of publicly funded high-dose influenza vaccines varies by province. It is provided free to those aged 65 and older in Ontario, Manitoba and Nova Scotia. (Government of Canada, 2018). In most other markets, the high-dose influenza vaccine is recommended but not funded, making the less-effective standard-dose option more accessible.

Figure 5:
International recommendations for the high-dose influenza vaccine

	Country	National Immunisation Technical Advisory Groups	Recommended for citizens aged:
	US	Advisory Committee on Immunization Practices (ACIP)	≥65 years
	Canada	National Advisory Committee on Immunization (NACI)	≥65 years
	Germany	Standing Committee on Vaccination (STIKO)	≥60 years
	Australia	Australian Technical Advisory Group on Immunisation (ATAGI)	≥65 years

CHAPTER THREE

INFLUENZA BURDEN AND VACCINATION STRATEGIES

The burden on healthcare systems

Influenza places a significant and recurring burden on public health and healthcare systems. While many cases are mild, the virus can also lead to severe illness, especially among high-risk groups. Influenza-related complications can cause pneumonia, exacerbate chronic respiratory or cardiovascular diseases, and, in some cases, lead to hospitalisation or death. As Japan's population ages, the stresses on its healthcare system are expected to intensify, which makes prevention crucial. Between the 2010/2011 and 2018/19 influenza seasons, all-cause hospitalisations rose from 137,854 to 222,782 and, crucially, clinical diagnoses of influenza more than doubled from 3.7 to 8.2 per cent (Hagiwara et al., 2022). Although official data for the 2024/25 season are not yet available, record case numbers suggest a likely increase in hospital admissions.[2] Research also shows that influenza-related emergency visits, hospitalisations and 30-day mortality rates rise with age, underscoring how the ageing population will amplify the pressure seasonal influenza places on Japan's healthcare system (Arashiro at el., 2024).

Care homes in Japan face growing strain from influenza, exacerbated by the high risk of outbreaks among residents. Influenza outbreaks in Japanese nursing homes can have high attack rates, with some facilities reporting infection rates of up to 55.2 per cent, highlighting how quickly influenza can spread among a vulnerable population (Taniguchi et al., 2020). Complications are often severe due to residents' age and underlying health conditions, leading to increased morbidity and mortality, putting pressure on care home resources.

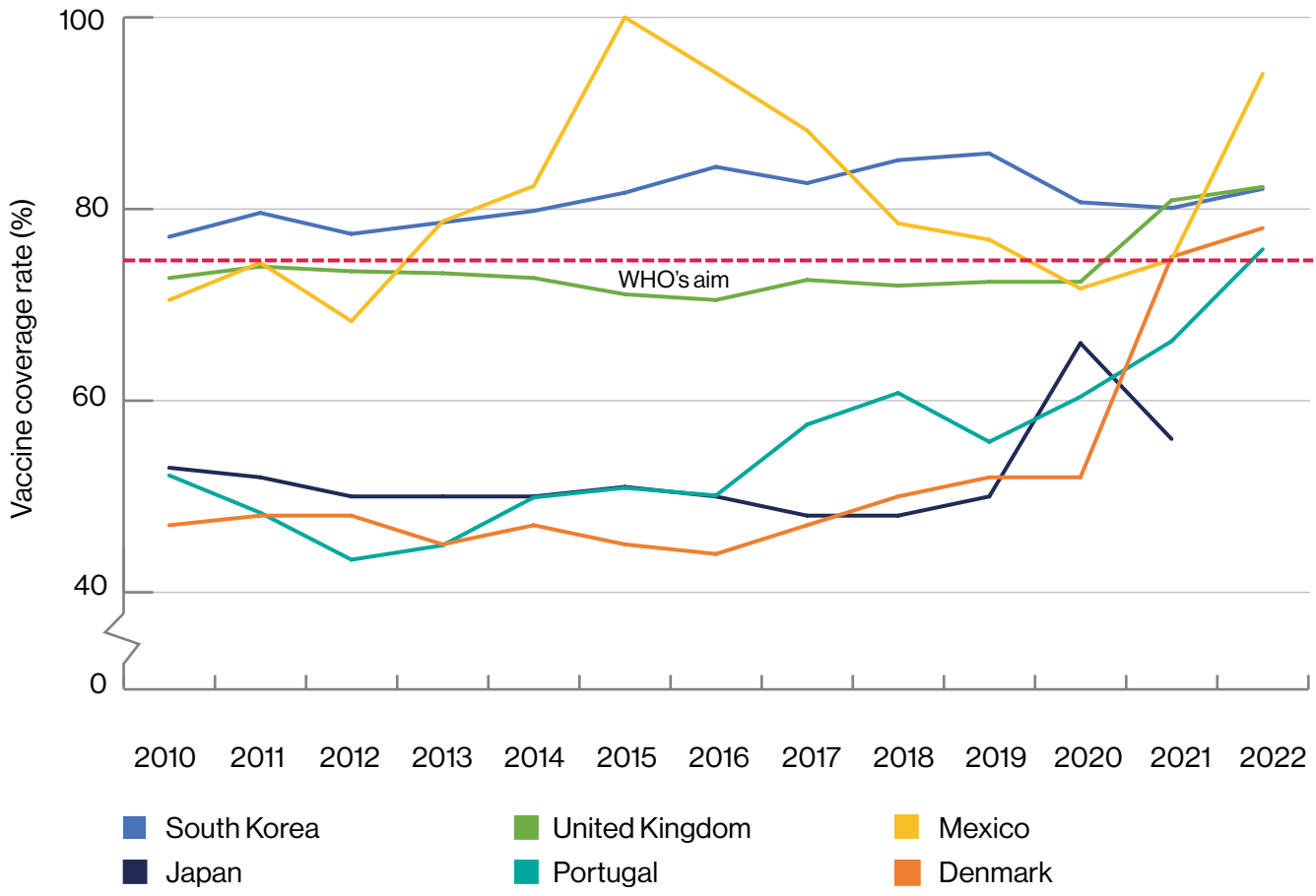
Influenza-related hospitalisation can result in greater care needs after discharge. Roundtable participants noted that influenza increases the likelihood of hospitalisation, which can result in hospital-associated disability (HAD): a decline in functional status that leads to a loss of independence. One common scenario involves a care home resident being hospitalised due to influenza, experiencing a further decline in activities of daily living (ADL) during their hospital stay and returning with increased care needs. This can place additional pressure on the original care home or necessitate a transfer to a facility equipped to provide a higher level of support. Thus, influenza indirectly contributes to long-term functional decline in the elderly and rising demand for post-hospitalisation care.

[2] Data is not available as of June 2025

Effectiveness of current vaccine strategies

Japan has introduced a number of measures to promote influenza vaccination uptake among the elderly. At present, the standard-dose vaccine is available on the National Immunization Program Category B (NIP B), meaning the government covers 30 per cent of the cost. Municipal governments are responsible for the remaining 70 per cent, with some offering partial or full subsidies to reduce out-of-pocket expenses. During the 2020/21 flu season, 46 per cent of municipalities provided free influenza vaccines for the elderly and the median co-payment for the vaccine fell from 1,500 yen to 660 yen (Ando el at., 2022). Additionally, municipalities often conduct public awareness campaigns, disseminating information through community centres, local media and healthcare providers to educate seniors about the benefits of vaccination. Efforts have also been made to increase accessibility by providing more clinics and home visits. Given that the elderly often have lower incomes and mobility challenges, these strategies play a critical role in improving their access to influenza vaccinations.

Figure 6:
Influenza vaccination coverage in adults aged 65+: Japan and the top five OECD countries



Source: OECD, n.d.

Just over half of Japan's elderly population receives an annual influenza vaccine, well below the WHO's 75 per cent target. According to OECD data, coverage among Japan's elderly dropped from a peak of 66 per cent in 2020 – a rise likely driven by heightened awareness during the COVID-19 pandemic – to just 56 per cent in 2021. This lags behind both the WHO target and the rates achieved in many other major economies. Japan's coverage among older adults ranks 23rd among OECD countries. Figure 6 shows the five countries with the highest coverage rates as of 2022 alongside Japan. The severity of the 2024-25 season, which saw a record number of weekly cases, further illustrates the need to increase vaccine uptake. This gap represents a missed opportunity to reduce hospitalisations and seasonal pressure on the health system.

The effectiveness of Japan's current influenza strategy is challenging to evaluate due to gaps in available data. Roundtable participants emphasised the importance of comprehensive data collection and transparent reporting on vaccination effectiveness to enhance health literacy and increase vaccine uptake. There was a general consensus that the US collects robust and detailed data on vaccination trends, while data collection in Japan is more limited. Japan does not currently have a national vaccine registry. Instead, immunisation records are managed separately by more than 1,700 municipalities, leading to data fragmentation and limited national oversight (Yamaguchi et al., 2018). In contrast, the US has a national database with standardised reporting systems. Additionally, the frequency with which Japan reports its vaccine coverage to the OECD lags behind that of many peers by up to two years. Improved data collection and transparent reporting systems would enable a more accurate assessment of vaccination coverage and effectiveness, facilitating better-informed public health strategies.

Misinformation and disinformation remain a key barrier to vaccine uptake. Expert discussions highlighted the role of misinformation in fuelling vaccine hesitancy, both globally and within Japan. A WHO review found that misinterpretation of health information tends to rise during outbreaks, increasing vaccine hesitancy and delaying the provision of healthcare (WHO, 2022). Social media plays a major role, with studies finding that up to 51 per cent of vaccine-related posts contain false health information (ibid). In Japan, the anti-vaccine movement gained momentum during the COVID-19 pandemic, fuelled by increased online political engagement, conspiracy theories and spiritual narratives (University of Tokyo, 2024). This has had lasting effects. In some cases, influential figures – among them healthcare professionals and political leaders – were reported to have expressed scepticism about vaccines, which may have reinforced public mistrust. Beyond hindering individual uptake, misinformation also limits the potential of achieving collective or herd immunity in a population. Improving data collection and transparent reporting are critical to countering misinformation and strengthening vaccination strategies.

Despite longstanding efforts to promote vaccination, gaps in coverage, uneven data availability and persistent misinformation continue to limit the effectiveness of Japan's current influenza prevention strategy. Addressing these issues through improved data systems and more tailored public communication, among other actions, will be essential if new tools such as the high-dose vaccine are to deliver maximum impact.

Interview with Michiaki Masuda

Professor Emeritus at
Dokkyo Medical University

How effective are current influenza vaccination strategies in Japan at protecting the elderly population?

According to a study by Dr. Tatsuya Noda at Nara Medical University, which analysed data from Japan's national medical insurance database, influenza is often considered a paediatric illness, with children up to nine years old accounting for around 25 per cent of all cases (Noda, 2022). However, between September 2017 and August 2020, approximately 3.6 million people aged 65 and older were diagnosed with influenza, representing about 11 per cent of all flu cases during that period (ibid).

While influenza can affect all age groups, severe or fatal cases are much more common among older adults. The rate of severe or fatal cases is less than 0.1 per cent for those under 60 but increases with age — reaching around 0.3 per cent for people aged 65 to 69 and rising to more than 3 per cent for those aged 90 and above (ibid). It is unknown whether those elderly patients with severe or fatal outcomes had been vaccinated. However, research by Dr. Hitoshi Kamiya, former director of Mie National Hospital, and his colleagues have indicated that influenza vaccination can prevent the onset of illness in 34 to 55 per cent of cases and can reduce the risk of death by 82 per cent among elderly residents in care facilities in Japan (Kamiya, 1999). Therefore, while influenza poses a higher risk to the elderly, the current vaccination programme in Japan presents considerable preventative benefits for them.

What is Japan's approach to influenza vaccination for the elderly and how does it compare to other countries?

In Japan, the influenza vaccination for people aged 65 and older is classified as a Category B routine vaccination, and the Ministry of Health, Labour and Welfare explicitly recommends it for this age group. For younger populations, however, the vaccine remains optional.

Each year, ahead of flu season, public awareness campaigns are run through the media and other communication channels to promote vaccination. Although the flu vaccine typically costs between 3,000 and 4,000 yen and isn't covered by national health insurance, some local governments offer full or partial compensation (PR Times, 2019). They also send notification postcards to eligible seniors. For example, in Utsunomiya City where I live, people aged 65 or older only have to pay 1,500 yen for the vaccine. With these programmes, Japan's influenza vaccination rate among people aged 65 and older was 56 per cent in 2021, ranking 23rd among 38 OECD member states (OECD, n.d.).

What strategies could help raise awareness and increase uptake of the high-dose influenza vaccine among older adults in Japan?

There are at least five key factors that could influence awareness and uptake of the high-dose influenza vaccine among older adults in Japan: perceived effectiveness, safety, cost, accessibility and the availability of accurate information.

As mentioned earlier, the flu vaccines currently used in Japan already offer a significant level of protection, which some may consider as satisfactory. In order to have a new drug or vaccine to be approved by the Japanese Ministry of Health, Labor and Welfare, it is usually sufficient to demonstrate its non-inferiority compared with the existing options. However, the general public would benefit from transparent information on how the effects of the high-dose vaccine are superior to those of the currently available ones.

This approach also applies to the safety of the high-dose vaccine in terms of the frequency and severity of the side effects. It would be beneficial to provide scientific data showing that the high-dose vaccine is not only effective but also as safe as, or safer than, the current vaccines.

The cost is also an important factor. Japanese consumers may be willing to pay more if the added value of the high-dose vaccine is clear to them.

It is also important that the elderly have easy access to the high-dose vaccine. If the high-dose vaccine is only available at select or distant hospitals, this could present a hurdle to uptake, especially compared with the standard-dose vaccine which is easily accessible at local doctors' offices. Since many elderly people may have mobility issues or chronic health conditions, incorporating the high-dose vaccine into home-visit medical services could be a practical solution.

Finally, clear and trustworthy information regarding the high-dose vaccine needs to be shared through reliable channels to raise awareness and generate interest. That said, some people may be hesitant to try a new vaccine, and changing their deeply held attitudes could pose a challenge.

What factors should the Japanese government consider when evaluating the long-term value of investing in high-dose influenza vaccines for the elderly?

Due to the growing elderly population and the associated rise in medical expenses, it is becoming increasingly difficult to financially sustain Japan's health insurance system, raising concerns about its potential collapse. While medical costs for acute infectious diseases make up a small portion of total medical insurance expenditures, influenza can worsen cardiovascular and other chronic conditions, potentially placing a greater indirect burden on the system.

If these indirect effects – and the potential benefits of high-dose vaccines compared to the standard-dose vaccines – can be objectively quantified, the government may be better-positioned to assess the cost-benefit balance of introducing high-dose vaccines for the elderly.

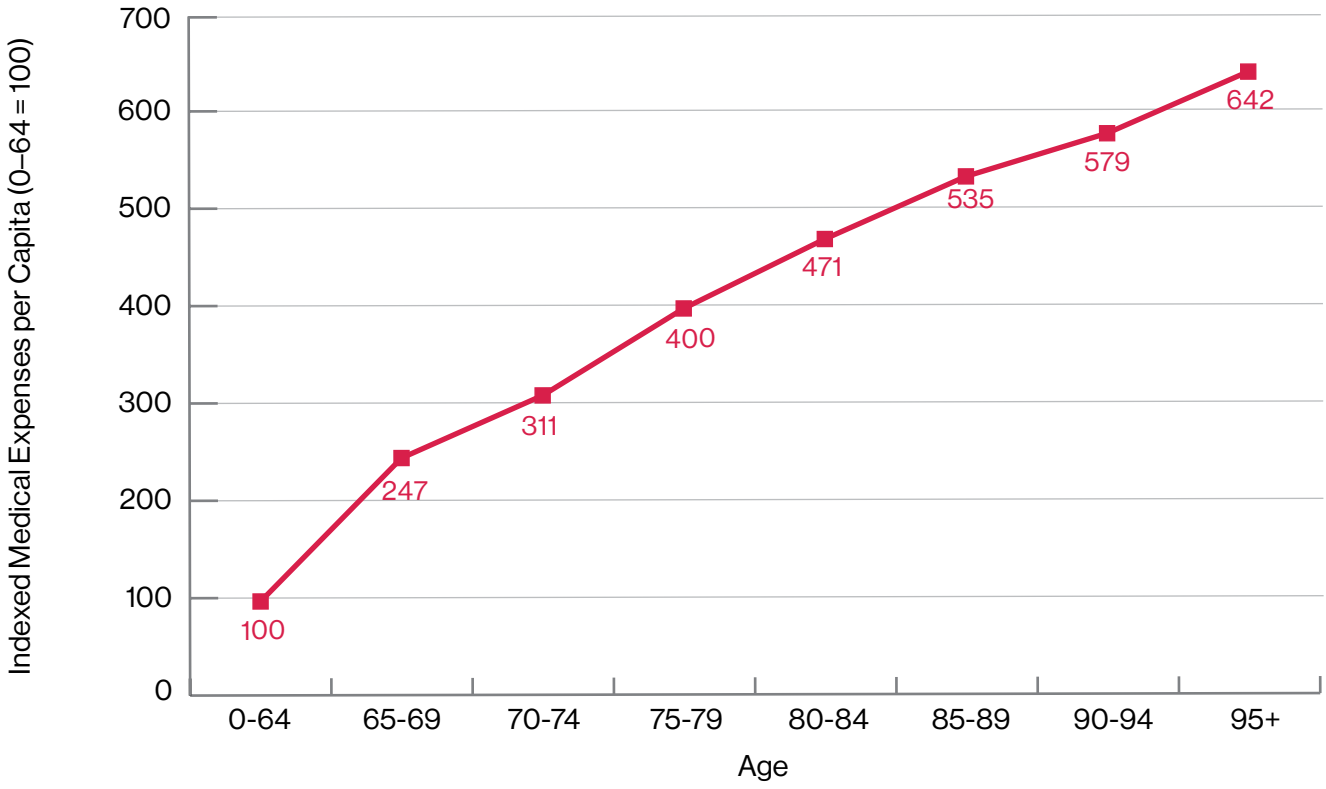
CHAPTER FOUR

ECONOMIC IMPACT AND WORKFORCE IMPLICATIONS

The economic impact of influenza

Influenza imposes a significant economic burden on Japan's healthcare system. A recent study by Arashiro et al. (2024) found that influenza-related hospitalisations cost between ¥821,403 and ¥899,935 per patient for respiratory cases, and between ¥870,582 and ¥922,814 when cardiovascular conditions were also involved.[3] Another study by Sruamsiri et al. (2017) reported that Japanese inpatients with influenza stayed in hospital for an average of 12.5 days, with total healthcare costs averaging ¥786,712 per admission .[4] Data from the Ministry of Health, Labour and Welfare demonstrates that medical expenses per capita increase considerably with age. As shown in Figure 7, average medical costs for individuals aged 65–69 are more than twice those for people aged 0–64, while for those aged 95 and above, they are more than six times higher. As Japan's population ages, government healthcare spending is expected to increase substantially, particularly as the number of individuals most vulnerable to influenza and its complications grows further.

Figure 7:
Medical expenses per capita by age group (2021)
(Average for individuals aged 0-64 =100)



Source: Ministry of Health, Labour and Welfare, n.d.–c

[3] In USD terms, the cost of hospitalisations for influenza respiratory cases is around US$5,637–$6,111 per patient and between US$5,980–$6,337 when cardiovascular conditions were also involved, as of June 2025 exchange rates.

[4] Equivalent to around US$5,402 per admission, as of June 2025 exchange rates.

Seasonal influenza poses a recurring barrier to the government's drive to promote longer working lives – resulting in higher worker absenteeism, reduced productivity and, in some cases, long-term complications that affect continued employment. These impacts are particularly significant for older workers, who make up a growing share of Japan's workforce and are often more vulnerable to illness. A systematic review of global studies found that between 20 and 75 per cent of employees missed work when they had influenza or an influenza-like illness, with absences typically lasting 2–3 days per episode (Zumofen et al., 2022). A further study focused specifically on Japan supports these findings, reporting that average work absences ranged from 2 to 5 days (Tsuzuki and Yoshihara, 2020). The Japanese government is encouraging people to work for longer, and many elderly workers report a desire to do so, yet influenza remains an obstacle to sustained workforce participation in later years. Vaccination plays a critical role in mitigating this impact. An Italian study found that influenza vaccination reduced work absences by 23 per cent and decreased the loss of working days by 30 per cent (Colombo, 2006). Ensuring the health of Japan's older workforce through preventive measures, including vaccination, will be critical to sustaining productivity and reducing the economic cost of avoidable illness.

Influenza can impose a financial burden on caregivers and families. Traditionally in Japan, multiple generations live together, and while living arrangements are shifting, a familial responsibility of caring for elderly relatives remains deeply embedded in cultural norms. A systematic literature review showed that productivity of the caregivers of individuals with influenza or influenza-like illness (ILI) often falls sharply, with workday absences ranging from 0.5 to 10.7 days per episode (Vaghela, 2024). Caregivers also face numerous out-of-pocket expenses, including transportation costs and medical fees. Although Japan was not the focus of this review, its findings are highly applicable given the country's reliance on informal, family-based care. As Japan's population ages and influenza remains a seasonal threat, the cumulative economic and emotional burden on families is likely to intensify.

"Beyond direct health effects, influenza can lead to work absences and caregiving burdens, especially in multigenerational households, resulting in productivity loss and broader economic strain on families and healthcare systems."

- Masahiro Ishikane M.D., Ph.D, Disease Control and Prevention Center, National Center for Global Health and Medicine and Japan Institute for Health Security

A cost-effective investment

Vaccination is widely recognised as one of the most cost-effective public health interventions, offering both health and economic benefits. The WHO has recognised the influenza vaccine as the most effective and cost-effective intervention for reducing the impact of influenza (WHO, 2023). Numerous studies show that investing in the vaccine yields long-term benefits.

A 2024 study by the Office of Health Economics found that adult immunisation programmes – including for influenza – can deliver up to 19 times their initial investment when factoring in broader societal benefits, such as reduced absenteeism and decreased demand on caregivers (OHE, 2024). Investing in influenza vaccinations delivers both health and economic benefits, and helps avert higher future costs. These findings underscore the importance of viewing vaccination not only as a clinical tool, but as a key component of workforce and economic planning.

The high-dose vaccine is proving to be a cost-effective investment in other markets. In France, switching from the standard-dose to high-dose influenza vaccine for older adults was estimated to prevent over 57,209 flu cases, 13,704 GP visits, 764 deaths and between 1,728 and 15,970 hospitalisations (Alvarez et al., 2024). A separate study in the US found that, over a ten-year period, the high-dose vaccine prevented more than 1.3 million influenza cases, 520,000 cardiorespiratory hospitalisations and nearly 74,000 deaths, generating an estimated US$4.6 billion in savings and delivering a return on investment of more than 200 per cent (Net et al., 2021). The majority of savings stemmed from reduced hospitalisation costs. While international studies show that the high-dose influenza vaccine can reduce hospitalisations and generate significant long-term savings, few offer a full cost-effectiveness analysis that weighs the higher upfront cost of the vaccine against these downstream benefits. Nonetheless, available evidence suggests that even with a higher per-dose price, the high-dose vaccine can represent good value for money when targeted at high-risk populations.

Adult immunisation programmes – including for influenza – can deliver

up to 19 times

their initial investment

[5] This paper synthesizes data from 36 studies across 22 countries. Japan is not included in the sample, but it is it is reasonable to expect that Japanese caregivers may experience similar impacts, given comparable caregiving demands.

In France, switching to the high-dose influenza vaccine prevented around **57,209** flu cases, **15,970** hospitalisations and **764** deaths

In the US, the high-dose vaccine prevented more than **1.3 million** influenza cases and nearly **74,000** deaths, generating **US$4.6 billion** in savings.

National immunization advisory bodies in several countries now preferentially recommend high-dose influenza vaccines for older adults. In Germany, the Standing Committee on Vaccination (STIKO) recommends a high-dose quadrivalent influenza vaccine for individuals aged 60 and older (STIKO, 2021). Similarly, the United States Advisory Committee on Immunization Practices (ACIP) and Canada's National Advisory Committee on Immunization (NACI) both give preferential recommendation to high-dose or adjuvanted influenza vaccines for seniors (Grohskopf et al., 2023; NACI, 2022). These endorsements reflect growing international consensus on the enhanced protection offered by high-dose quadrivalent influenza vaccines in older populations.

The high-dose influenza vaccine has also been shown to increase Quality-Adjusted Life Years (QALYs) in international settings. QALYs is a measure used in health economics to determine cost-effectiveness and assess whether a treatment or intervention provides good value for money. A study in Korea found that the high-dose influenza vaccine generated 0.003953 QALYs per person compared to the standard-dose. This resulted in an incremental cost-effectiveness ratio (ICER) of US$6,467 per QALY gained – far below typical willingness-to-pay thresholds in most countries, including Japan. This indicates high cost-effectiveness (Nham et al., 2023). [6] A study in the Netherlands showed that adoption of the high-dose influenza vaccine resulted in an ICER of €5,400 per QALY gained, due to the prevention of cardiorespiratory hospitalisations, GP consultations and deaths (Van Der Pol et al., 2024).

[6] A study by Kitano and Tsuzuki (2025) highlights Japan's cost-effectiveness threshold for one QALY gained to be 5–7 million Japanese yen, converted to USD$33,300 - $46,700.

Interview with David Tick

General Manager,
Vaccines, Japan at Sanofi

In your view, what are the key advantages of the high-dose influenza vaccine compared to the standard-dose, particularly for older adults in Japan?

Sanofi's high-dose influenza vaccine was specifically designed to better protect the elderly whose immune systems are waning with age and who need stronger protection than standard-dose influenza vaccines provide. Importantly, influenza can wreak havoc across major organ systems months after an infection, leading to an eight to 10 times greater risk of stroke and cardiac arrest, respectively (Warren-Gash et al., 2018). Up to one in four elderly people experience loss of independence after an infection (Andrew et al., 2021). To date, Sanofi's high-dose vaccine is the only high-dose influenza vaccine in the world that offers proven protection beyond flu, both in randomized clinical trials and real-world evidence, consistently throughout more than 12 seasons (Lee et al., 2023). For Japan's super-ageing society, this holds strong potential for healthier and more independent ageing.

Can you describe how Sanofi collaborated with the Japanese government and regulatory authorities to secure approval for the high-dose influenza vaccine?

A continuous and transparent collaboration with our external stakeholders, including but not limited to the Japanese government, regulatory authorities and medical communities, is at the centrepiece of every innovation we launch, including Sanofi's high-dose influenza vaccine. After more than a decade of proven contribution to public health across a wide variety of nations, we are pleased and proud that this unique innovation can soon also better protect the elderly people of Japan and serve the public health system.

What are Sanofi's objectives for the high-dose flu vaccine in Japan over the next few years?

First and foremost, Sanofi aims to protect as many individuals and communities as possible. We want to ensure that the elderly of Japan have a choice and access to be better-protected with a safe and more efficacious protection against and beyond flu. We aim to contribute to a healthier ageing society of Japan while also providing economic cost-effectiveness to the government of Japan, as also showcased throughout the world.

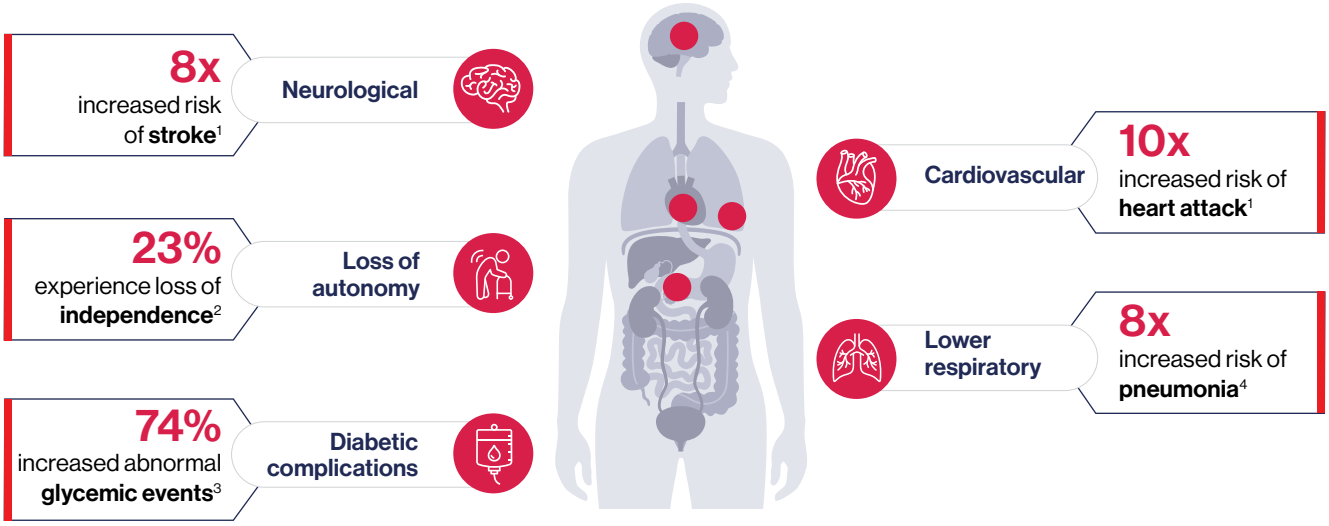
How does Sanofi see the high-dose influenza vaccination contributing to Japan's broader goal of building a more resilient healthcare system in the context of an ageing society?

Repeatedly and consistently throughout the world, Sanofi's high-dose influenza vaccine has shown a higher relative vaccine efficacy (rVE) of 24.2 per cent vs. standard-dose. It has protected hundreds of thousands of elderly individuals beyond flu, including from hospitalisations and worse. Sanofi aims to have a similar beneficial impact on the super-ageing society of Japan, and to further strengthen its healthcare system, making it more resilient for generations to come.

From a policy perspective, how do you think the Japanese government should weigh the short-term costs of investing in high-dose influenza vaccines against the long-term benefits?

The impact of an influenza infection and beyond can be devastating. Only Sanofi's high-dose influenza vaccine has proven to offer effective protection beyond flu, in both randomized clinical trials as well as large real-world evidence, consistently and repeatedly. In the US alone, it has saved more than US$4.6 billion over the last decade. Sanofi strongly believes that by providing national access to our high-dose influenza vaccine to the elderly of Japan, both health and economic benefits will be evidenced, both in the long-term, by enabling ever-healthier ageing societies, and in the short-term, by more effectively preventing infections, complications, sick leaves of patients and caretakers, hospitalisations and worse in flu seasons.

Figure 8:
Health complications due to influenza



Sources:
1. Warren-Gash et al. (2018)
2. Andrew et al. (2021)
3. Samson et al. (2019)
4. Kubale et al. (2021)

CHAPTER FIVE

COLLABORATIVE APPROACHES AND STAKEHOLDER ENGAGEMENT

A coordinated approach involving all stakeholders will be essential to ensure the successful development, delivery and uptake of the high-dose influenza vaccine in Japan. This was a key theme in the roundtable discussions.

In Japan, the successful rollout of any new vaccine – including the high-dose influenza vaccine – depends upon collaboration among several key actors. Central to this collaboration is the Ministry of Health, Labour and Welfare (MHLW), which plays a pivotal role in regulatory approval, national immunization policy and public funding decisions. The Subcommittee on Vaccination and Vaccine Policy at the MHLW will review and assess the cost-effectiveness of the vaccine. The National Institute of Infectious Diseases (NIID) is a government-funded research institution that collects data on influenza and conducts research on the prevention and control of infectious diseases. Municipal governments oversee local vaccination programmes and determine the level of subsidy available to residents, which can vary significantly by prefecture. Together, these governmental bodies form the backbone of Japan's public health infrastructure, ensuring that vaccines are accessible, effectively regulated and guided by data-driven policy.

> ***"In Japan, as in other countries, leadership from the central government is essential for vaccination policy. However, in Japan, municipalities are responsible for the specific planning and implementation of vaccinations. Effective advocacy for vaccination policy requires an understanding of each municipality's health policy priorities and local context."***
>
> *– Ryoji Noritake, Chair of the Health and Global Policy Institute*

Healthcare providers – including hospitals, clinics and care facilities – play a frontline role in vaccine delivery, data reporting and public engagement. The Japan Medical Association and similar bodies guide clinical standards, engage in public health promotion and work closely with government to support vaccine implementation. Academic and research institutions enhance clinical trials and conduct studies, which are essential for evidence-based policy development and public trust.

The private sector also plays a critical role in developing and distributing vaccines. Manufacturers such as Sanofi conduct clinical trials, provide technical data to regulators and support policy discussions on vaccine rollout and distribution. Roundtable participants noted that some employers run workplace vaccination programmes and, in some cases, even extend these to family members. In addition, certain employer-based health insurance societies subsidise seasonal flu vaccines to support preventive care.

Patient advocacy groups could play a more prominent role in encouraging vaccine uptake in Japan by raising awareness, addressing hesitancy and amplifying the voices of older adults. These groups – organisations that represent and support the interests of people affected by specific diseases or conditions – can be powerful agents of change. For example, Japan's Cancer Control Act, enacted in 2007, mandates the involvement of cancer patients and their families in policymaking, fostering a more inclusive and patient-centred approach to health policy. Roundtable participants noted that, globally, patient advocacy groups have been effective in promoting influenza vaccine development, education and uptake. In Japan, however, their role has been more limited and they have been less visible in policy discussions. At present, patient voices are not systematically integrated into vaccination policymaking – unlike in countries such as the US or Australia, where advocacy groups are routinely involved in shaping health strategy.

The International Federation on Ageing (IFA) promotes seasonal influenza vaccination as a key component of healthy ageing. Through its Vaccines4Life program, the IFA collaborates with the WHO and national health ministries to advocate for the inclusion of older adults in immunization policies. In South Korea, the IFA supported a campaign to raise awareness of influenza vaccination among older adults with chronic conditions. In Japan, patient advocacy groups could play a greater role in increasing awareness and tackling misinformation.

Stronger partnerships across government, health providers, industry and civil society will be critical to building confidence in the high-dose influenza vaccine and ensuring equitable, nationwide delivery.

> ***"Patient advocates play a very, very important role in the development of healthcare policies more broadly, and also in vaccine development and uptake. However, in Japan, our experience is that – compared to other countries such as those in Europe, Australia, and particularly the United States – the voice of patient advocates is somewhat diminished and fractured."***
>
> *– Roundtable participant*

CHAPTER SIX

POLICY RECOMMENDATIONS

Drawing on insights from a broad range of experts – including healthcare professionals and government representatives – this report identifies five policy recommendations aimed at protecting older adults from influenza and strengthening the resilience of Japan's healthcare system and economy.

1. Prioritise high-risk populations in immunization policy

The high-dose influenza vaccine should be included in Japan's National Immunisation Program B for adults aged 65 and older. Its superior efficacy compared to the standard-dose vaccine offers significantly better protection for a segment of the population that is particularly vulnerable to influenza and related health complications. As Japan's older population continues to grow, introducing the high-dose vaccine represents a cost-effective, preventative investment in public health.

Evidence shows that the high-dose influenza vaccine reduces hospitalisations and serious health complications stemming from influenza. This yields dual benefits: it promotes healthier, longer lives lived with greater dignity, and it helps to ease long-term healthcare costs by reducing the need for reactive treatment and hospital care during seasonal outbreaks. Furthermore, the vaccine can play a key role in supporting the government's goal of extending workforce participation among older adults, by enhancing their ability to work for longer and minimising workplace disruptions. These will be key factors supporting Japan's economic resilience.

The Japanese Ministry of Health, Labour and Welfare's recent decision to include the shingles vaccine in its immunisation programme for older adults demonstrates the government's willingness to invest in effective preventive solutions. The high-dose influenza vaccine presents a similar evidence-based opportunity.

2. Strengthen public awareness and address vaccine hesitancy

Improving health literacy is essential to increasing vaccine uptake. Many older adults remain unsure of the benefits of influenza vaccination, and are often unaware of newer formulations such as the high-dose vaccine. Health literacy – the ability to access, understand and use health information to make informed choices – remains relatively low in Japan compared with many European countries (Nakayama et al., 2015). Furthermore, Japan has one of the world's lowest vaccine confidence rates, with a study showing only 8.9 per cent of respondents in Japan strongly agreed that vaccines are safe (Figueiredo et al. 2020). Enhancing health literacy would help individuals feel more confident navigating health information and less susceptible to misinformation.

Clear, accessible communication is needed to explain how the high-dose influenza vaccine differs from the standard-dose, and why the distinction matters for older people. Most people without a medical background are unlikely to understand the differences, so clear, transparent and accessible information about comparative efficacy and potential side effects is crucial. While childhood vaccination programs are generally well-understood, it is increasingly important to tailor influenza messaging to older adults, including by age group and health status.

Public health messaging should distinguish between standard and high-dose influenza vaccines in plain terms, supported by clear evidence and guidance from trusted voices. The Ministry of Health, Labour and Welfare currently leads the annual influenza campaign, providing guidance to local governments and healthcare institutions via tools such as web pages, leaflets, videos, public symposiums and a consultation hotline – and there is potential to expand both its reach and its impact. Integrating social media platforms into the campaign strategy could significantly broaden engagement, especially among digitally active older adults and caregivers. Collaboration with mainstream media outlets, including television and radio networks and newspapers, can help to increase visibility and reach.

> **"One of the key challenges we face is building and maintaining public trust in vaccines. While Japan has made significant progress in recent years, some concerns and misunderstanding about vaccination remain, which can affect public confidence. It's vital that we combine strong scientific and evidence-based communication with community-based engagement strategies to ensure people not only understand the benefits of vaccination but feel confident in the systems delivering them."**
>
> *- Osamu Kunii, CEO, Global Health Innovation Technology Fund*

3. Support research and data collection

Robust, timely data is essential to understanding the full impact of high-dose influenza vaccination and guiding future public health decisions. This includes data on uptake, outcomes, cost-effectiveness and potential indirect benefits such as a reduced burden on caregivers or fewer lost workdays.

Roundtable participants cited the lack of detailed data and fragmented datasets in Japan as a limitation to assessing the effectiveness of vaccines. A national vaccine registry, as opposed to the current system of municipal records, could reduce data fragmentation across the country. Longitudinal studies – those that track both clinical outcomes and system-wide effects – could inform national policy and demonstrate long-term value. Given Japan's ageing population, it is crucial to disaggregate the effects of vaccination programmes across age groups, as over time, more tailored health policies may be needed to target different sub-groups, particularly as the number of centenarians rises. Furthermore, quantifying government expenditure on vaccines, as well as the number of influenza cases or hospitalisations they avert, could inform cost-benefit analysis and future spending decisions.

Data and facts are essential to tackle misinformation. While conspiracy theories and health-related falsehoods can spread rapidly online, robust and reputable evidence can help to improve health literacy, build public trust and support informed decision-making among both patients and healthcare professionals.

4. Expand equitable access and delivery

Improving vaccine access requires attention to both systemic and individual-level factors that influence uptake. In Japan's context, several key barriers and enablers were identified by roundtable participants.

Policy and funding

Introducing the high-dose vaccine into the National Immunisation Programme Category B would improve annual access for those aged 65 and over. Such a step would require the national government to cover 30 per cent of the vaccine cost, while municipal governments would be responsible for deciding how much of the remainder would be borne by individuals. Roundtable participants emphasized that cost is a key lever to increase uptake among older adults, who typically have lower disposable incomes. Reducing or eliminating co-payments through full or partial subsidies could help Japan achieve the WHO's recommended influenza vaccination coverage rate of 75 per cent for older adults, which is significantly above the current rate of 56 per cent (OECD, n.d.). In the UK, where the influenza vaccine is offered free of charge to adults aged 50 and over, some 75 per cent of people in this age group received the vaccine in 2020: evidence that lower cost barriers can drive higher coverage (Makanjuola-Akinola et el., 2021).

Access and delivery infrastructure

Local delivery will also be key. Currently, the elderly can access the standard-dose vaccine at hospitals, clinics and public health centres. Some, but not all, municipalities also offer home-visit vaccination services, which are essential for individuals with mobility issues. As Japan's population grows older, expanding access at the community level – including by bringing vaccines directly to the most vulnerable – will be essential to improving overall coverage. This would necessitate financial support for local governments, additional training and guidelines to assist municipalities in implementing local programmes.

Awareness and education

As previously noted, increasing awareness and education about the high-dose influenza vaccine is key to expanding delivery and uptake. Government promotion and targeted messaging can help ensure older adults are informed about the vaccine's availability and benefits, while municipal governments and healthcare providers should clearly communicate how and where it can be accessed.

5. Enhance collaboration across key stakeholders

Policy development and implementation should involve a broad coalition of actors, including government bodies, research institutions, industry partners and patient advocacy groups. Encouraging collaboration between academic researchers and public health agencies can support the generation of real-world evidence to guide policy decisions on high-dose influenza vaccines. Similarly, partnerships with patient advocacy organisations, particularly those representing older adults or individuals with chronic conditions, can enhance public engagement, promote vaccine confidence and help tailor outreach efforts to the needs of vulnerable populations.

> ***"The voices of citizens and patients are critical. While much attention is given to anti-vaccine citizen voices, it is not experts or scientists who can effectively offer a counter-discourse. A response led solely by experts and scientists may provoke further opposition from anti-establishment groups. Instead, it is other citizens who are best positioned to present a counter-discourse to anti-vaccine narratives."***
>
> *- Ryoji Noritake, Chair of the Health and Global Policy Institute*

Ongoing dialogue between vaccine developers and government agencies will be important to ensure supply, safety monitoring and data transparency. Post-marketing surveillance can provide additional insight into both real-world effectiveness and cost efficiency. In parallel, collaboration with academic and clinical researchers can support post-marketing monitoring and generate local data on efficacy, safety and cost-effectiveness: critical evidence for long-term policy planning. A coordinated approach that leverages the strengths of each stakeholder will be vital for increasing vaccine uptake, improving health outcomes for the ageing population and enhancing Japan's long-term economic resilience.

The success of any vaccination strategy depends not just on scientific evidence, but on delivery, trust and alignment with national priorities. Japan has the opportunity to lead in building an integrated approach that supports both public health and economic resilience.

Conclusion

Japan's ageing population presents an urgent and complex challenge – one that affects not only healthcare, but the broader sustainability of the economy. As the workforce shrinks and care needs rise, the realisation of the government's goal to extend healthy working lives will depend increasingly on the success of preventive health strategies. Influenza, though seasonal and familiar, continues to cause significant disruption – particularly for older adults.

The high-dose influenza vaccine is one of several tools that can help Japan meet this challenge. International evidence shows that the vaccine reduces the severity of influenza and related hospitalisations, highlighting its value as a cost-effective public health investment. Used strategically, the vaccine can support both individual wellbeing and national economic resilience.

Including the high-dose influenza vaccine in Japan's National Immunisation Programme would be a practical step toward improving protection for the most vulnerable and easing pressure on public health infrastructure. Achieving positive outcomes, however, will also depend on public confidence. Transparent communication, clear evidence and trusted voices will be essential to build awareness and support informed uptake among older adults. As the government looks to manage this unprecedented demographic shift, targeted investments in prevention, combined with efforts to strengthen public trust, will be vital – not only to contain costs, but to enable older individuals to live longer, healthier, and more productive lives.

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