Policy Forum

DOI: 10.5582/bst.2025.01309

Dementia strategies in an aging society: Policies, care, and global insights from the Japanese experience

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SUMMARY: Aging of the population has become a critical challenge globally. The proportion of individuals age 60 years and older is projected to increase from 12% in 2015 to 22% by 2050, representing more than 2.1 billion older adults globally. This demographic transition is advancing particularly rapidly in Japan, which has become the first nation to become a "super-aged society". Projections indicate that by 2060, the number of older adults living with dementia will reach approximately 6.45 million (more than 17% of the elderly population), making it one of the country's most urgent health and social care challenges. Japan has developed a comprehensive response system that integrates medical, community, and family-based care. Key initiatives include a national dementia strategy, mechanisms for early screening and diagnosis, the establishment of memory clinics, and the implementation of the community-based integrated care system, which emphasizes coordination between healthcare and long-term care services. These measures have alleviated part of the burden on patients and families while enhancing social awareness of dementia and inclusion of those with that condition. Nevertheless, Japan continues to face significant structural challenges, such as severe shortages of healthcare personnel and professional caregivers, increasing fiscal pressure on long-term care financing, insufficient dissemination of innovative therapies and digital diagnostic tools, and disparities in social support between urban and rural areas. Cross-national comparisons indicate that Japan's experience offers valuable lessons for other rapidly aging societies, particularly in policy design, the integration of community-based care, and the promotion of a dementia-inclusive society. Summarizing and adapting Japan's approaches may therefore provide globally applicable strategies to build sustainable and equitable systems for dementia prevention, management, and care.

Keywords: dementia, Alzheimer's disease, super-aged society, community-based integrated care, health policy, medical challenges

1. Introduction

Aging of the population has become a serious issue globally. Aging of the population has become a serious issue globally. According to the World Health Organization Aging and health, the proportion of people age 60 years and older is projected to increase from 12% in 2015 to 22% by 2050, equating to more than 2.1 billion older adults worldwide (*1*). This demographic shift is occurring particularly rapidly in East Asia, and Japan stands at the forefront as the first country to become a "super-aged society". Currently, according to the 2025 White Paper on an Aging Society published by the Cabinet Office (*2*), the number of people age 65 and older has reached 36.24 million, accounting for 29.3% of the total population. Nearly 30% of Japan's population is age 65 or older, representing the highest proportion globally. This pronounced demographic shift has placed tremendous pressure on Japan's healthcare resources, social security system, and long-term care sector. In response, Japan has been compelled to develop optimal strategies to address population aging, thereby offering valuable insights and reference for tackling similar challenges worldwide.

Dementia is one of the most pressing health issues in aging societies, and individuals with that condition represent a particularly important population that warrants close attention. Globally, according to the

World Health Organization (WHO) (*3*), the number of people living with dementia reached approximately 57 million by 2021, with around 10 million new cases emerging each year. These figures not only highlight the rising prevalence of dementia but also underscore the substantial burden it imposes on public health and social security systems. In Japan, the situation is particularly severe: approximately 4.71 million older adults are already affected, accounting for more than 12% of the elderly population (*4*). Projections suggest that by 2060, the number of older adults living with dementia will reach approximately 6.45 million (more than 17% of the elderly population), making it one of the nation's most urgent health and social care challenges. These figures highlight a clear trajectory — without effective interventions, the burden of dementia will escalate dramatically, not only increasing morbidity and mortality but also intensifying caregiver strain, healthcare expenditures, and fiscal stress on long-term care systems. In addition, factors such as public stigma, limited awareness, insufficient financial protection, and challenges in coordinating long-term care further exacerbate disparities in the diagnosis, treatment, and management of dementia (*5-8*). These multidimensional barriers contribute to delayed care-seeking and hinder the implementation of effective community-based support systems.

Importantly, the burden of dementia is not evenly distributed across countries with different income levels, as shown in Figure 1. According to reports from the WHO (*3*) and Alzheimer's Disease International (ADI) (*9*), the most significant increase in the number of people with dementia is projected to occur in developing countries. Currently, approximately 60% of individuals with dementia reside in low- and middle-income countries (LMICs); however, this proportion is expected to rise to 71% by 2050. This rapid epidemiological transition underscores the growing global health burden of dementia, highlighting the urgent need for equitable allocation of healthcare resources, culturally tailored intervention strategies, and international collaboration to address disparities in prevention, diagnosis, and long-term care. High-income countries such as Japan, Germany, and the United States face challenges of financing long-term care systems and ensuring workforce sustainability (*10*). In contrast, LMICs, which will experience the fastest growth in older populations, face unique barriers including limited diagnostic capacity, inadequate healthcare infrastructure, and insufficient formal long-term care services (*11*). Therefore, while high-income countries face challenges in controlling costs and promoting advanced medical innovations, low-income countries must first prioritize the establishment of fundamental dementia care systems and increased public awareness. In this regard, Japan's experience — particularly its integration of community-based long-term care, development of dementia-inclusive social policies, and emphasis on early detection — offers strategies that can be adapted by other countries, including LMICs. Although resource contexts differ, the Japanese model demonstrates how coordinated policies, community mobilization, and gradual building of systems can mitigate the social and economic impact of dementia, providing lessons for countries at varying stages of demographic transition.

This paper aims to examine Japan's experience in addressing dementia, with a particular focus on long-term care. Japan has implemented comprehensive strategies, including the establishment of a national dementia plan, the promotion of early diagnosis, and the development of an integrated community care system that combines healthcare, nursing, and social support. At the same time, the country continues to face persistent challenges such as workforce shortages, financial

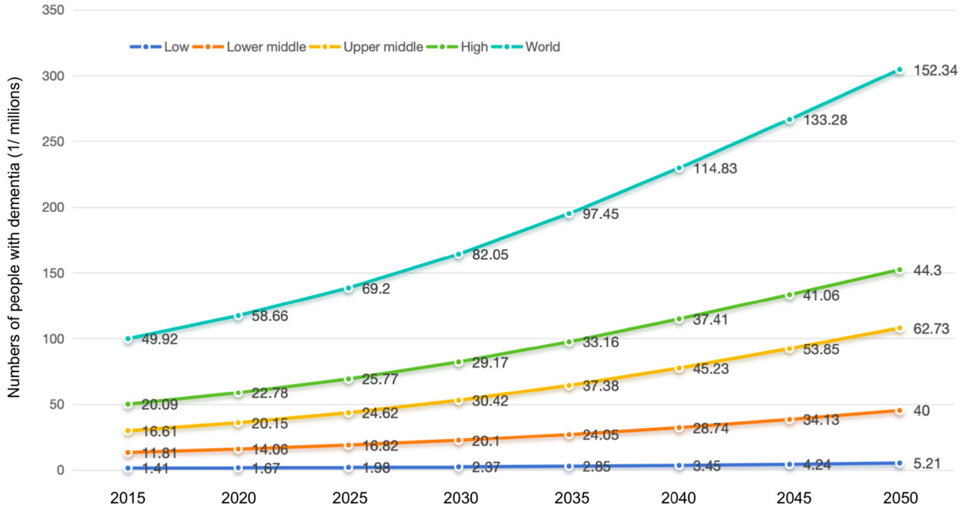


Figure 1. Estimated number of people with dementia by World Bank income group (millions) from 2015-2050. *Data source*: Alzheimer's Disease International (ADI). The number of people with dementia around the world. *https://share.google/oopaccrkijn5Ofco5*

sustainability, and inequitable access to innovative diagnostics and therapies. By analyzing the development, implementation, and limitations of Japan's policies and practices, valuable lessons can be learned by other rapidly aging societies. Ultimately, the goal is to provide global insights into building sustainable, inclusive, and patient-centered models of dementia care in the context of population aging.

2. The long-term care insurance (LTCI) system in Japan

In Asia, Japan was the first country to introduced a public LTCI system in 2000 (*12*) in response to unprecedented demographic aging, rising demand for elderly care, and the limitations of the previous tax-based and family-dominated support systems. The LTCI is a universal, mandatory social insurance scheme that covers all residents age 40 years and older through premiums, while benefits are available to those age 65 years and older who need care and to individuals age 40–64 with age-related diseases such as dementia or stroke. The LTCI provides a wide range of benefits, including home-based services (visiting nursing, day care, and convalescent care), community-based services, institutional care, and access to assistive devices. Each beneficiary undergoes a standardized eligibility assessment that determines their "level of care need", ranging from support to higher levels of dependency (Figure 2). This model has attracted international attention as a successful example of effectively addressing the challenges of a super-aged society.

Comparative studies have noted differences in care systems across income levels. In high-income countries, such as Germany and the United States, long-term care systems are often characterized by either insurance-based financing with stronger reliance on family caregiving (Germany) (*13*) or means-tested public programs combined with dependence on the private market (United States) (*14*). In contrast, middle-income countries (*e.g.*, China (*15*) and Thailand (*16*)) are still experimenting with hybrid approaches. Low-income countries, constrained by fiscal capacity, rely heavily on family caregiving with minimal institutional support, thereby amplifying unmet care needs and caregiver strain. While these systems provide important coverage, they frequently struggle with fragmented service delivery and uneven access to community-based care (*17,18*). In contrast, Japan's LTCI emphasizes universal coverage, standardized assessment of eligibility, and the integration of medical, nursing, and social services at the community level through the community-based integrated care system. This approach enables a more seamless coordination of care and reduces the overdependence on institutional settings. Notably, Japan was among the first countries in the world to explicitly identify dementia as a major focus and to incorporate it into the community-based integrated care framework within its LTCI system.

Importantly, in Japan, the majority of LTCI services are delivered through home-based care, community-based care, and facility-based care, with home-based care alone covering approximately 4.35 million LTCI recipients and facility-based care serving 0.96 million, according to data released in June 2025 (*19*). Thus, the Japanese LTCI model represents a middle pathway that balances home-based autonomy with professional support. Moreover, several studies provide empirical evidence of benefits for persons with dementia under Japan's LTCI system. Among them, "Small-scale Multifunctional In-home Care (Shotaki)" and

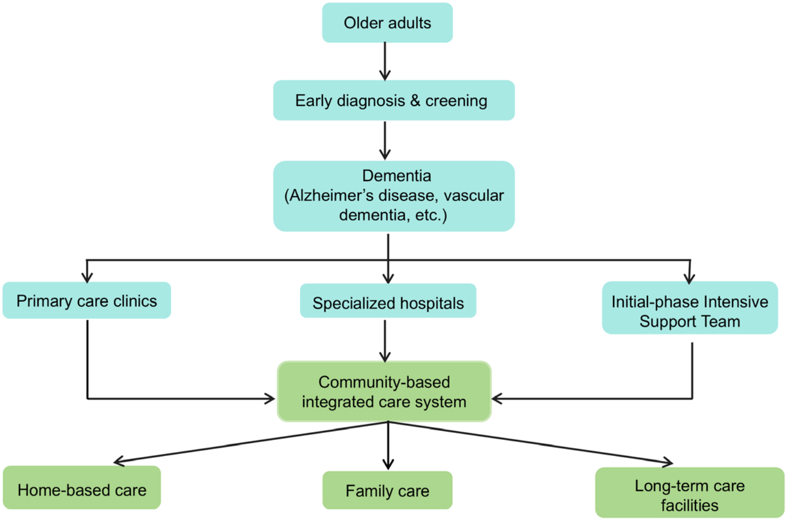


Figure 2. Schematic diagram of Japan's long-term care and dementia support system. This diagram illustrates the continuum of dementia care in Japan, from early detection and subtype diagnosis to the integration of medical, community, and long-term care services. The system emphasizes collaboration among medical facilities, community general support centers, and long-term care providers within the framework of the Long-Term Care Insurance (LTCI) system.

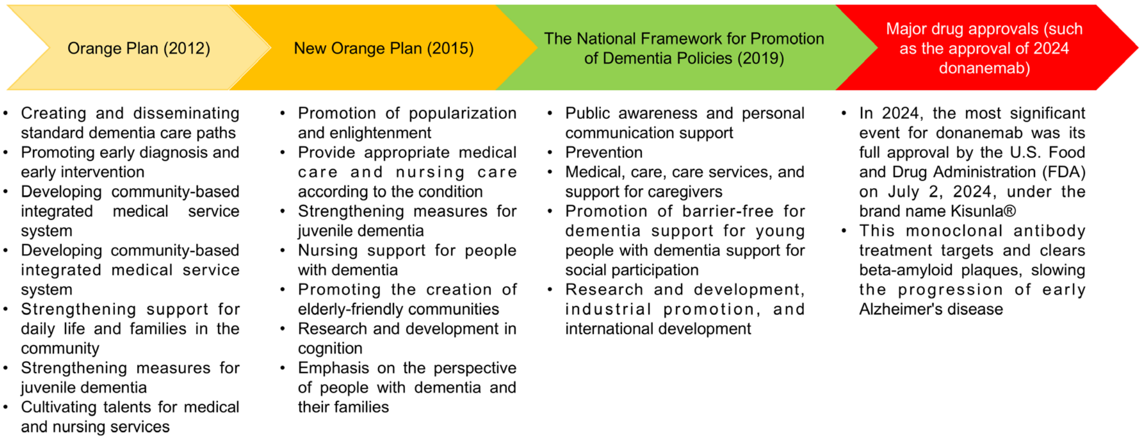
"Nursing Small-scale Multifunctional In-home Care (Kantaki)" have emerged as key components of the LTCI (*20*), which can also adeptly meet the demands of home care services. For instance, an observational study (*21*) found that services provided under the LTCI framework not only reduced hospital readmission rates but also addressed patients' care needs, with particularly pronounced benefits for those living with dementia. At the same time, the system plays a critical role in ensuring continuity of care. A study (*22*) found that LTCI-facilitated service provision and monitoring of care needs enabled earlier identification and timely certification of cognitive decline, providing opportunities for targeted interventions and planning care for persons with dementia. Another study (*23*) in Kyoto Prefecture found that use of LTCI services helped to reduce the level of care needs among the elderly with dementia, suggesting that these services play a protective role in maintaining functional status. In sum, the LTCI system provides a strong organizational backbone for supporting individuals with cognitive decline, though scalability and sustainability remain pressing concerns globally.

3. Policy support for dementia care in Japan: From the orange plan to the national framework

Japan has been at the forefront of formulating comprehensive national strategies to address dementia (Figure 3), reflecting the urgent challenges posed by one of the world's most rapidly aging societies. The Orange Plan (*24*), launched in 2012, represented Japan's first nationwide dementia policy, and was designed as a five-year initiative. It identified seven core pillars: *i*) creating and disseminating standard dementia care paths, *ii*) promoting early diagnosis and early intervention, *iii*) developing a community-based integrated medical care system, *iv*) developing community-based integrated medical care system, *v*) strengthening support for daily life and families in the community, *vi*) enhancing measures for juvenile dementia, and *vii*) fostering personnel for medical and nursing care. This policy has not only established a nationwide unified framework for dementia care in Japan but also provided valuable insights for the development of dementia strategies in other countries.

In 2015, the government revised and expanded the strategy into the New Orange Plan (*25*), which was explicitly framed as part of Japan's integrated community care system. Unlike the 2012 plan, which focused primarily on improving medical and nursing care, the New Orange Plan broadened the scope to include social participation, citizen engagement, and the creation of "dementia-friendly communities" This marked a shift from a strictly healthcare-oriented framework toward a more societal model that sought to empower local governments, non-governmental organizations, and civil society groups to build inclusive communities where individuals with dementia could continue to live in familiar environments. The key measures include strengthening comprehensive management across the entire disease trajectory, enhancing the training of specialized personnel, and increasing investment in research to promote the development and implementation of novel therapies. In addition, the policy emphasizes international collaboration, sharing experiences with the global community to collectively address the challenges posed by population aging and dementia.

Following Japan's implementation of the Orange Plan, several studies have evaluated its impact on end-of-life care settings, place of death, and quality of medical care for individuals with dementia. A study (*26*) analyzed nationwide death certificate data for Japanese dementia population 65 years and older between 2009 and 2016 and revealed a significant increase in deaths occurring in nursing homes and other non-hospital settings relative to hospital deaths, although home deaths did not rise



- Creating and disseminating standard dementia care paths
- Promoting early diagnosis and early intervention
- Developing community-based integrated medical service system
- Developing community-based integrated medical service system
- Strengthening support for daily life and families in the community
- Strengthening measures for juvenile dementia
- Cultivating talents for medical and nursing services

- Promotion of popularization and enlightenment
- Provide appropriate medical care and nursing care according to the condition
- Strengthening measures for juvenile dementia
- Nursing support for people with dementia
- Promoting the creation of elderly-friendly communities
- Research and development in cognition
- Emphasis on the perspective of people with dementia and their families

- Public awareness and personal communication support
- Prevention
- Medical, care, care services, and support for caregivers
- Promotion of barrier-free for dementia support for young people with dementia support for social participation
- Research and development, industrial promotion, and international development

- In 2024, the most significant event for donanemab was its full approval by the U.S. Food and Drug Administration (FDA) on July 2, 2024, under the brand name Kisunla®
- This monoclonal antibody treatment targets and clears beta-amyloid plaques, slowing the progression of early Alzheimer's disease

Figure 3. Dementia policy time line. *Data source*: Ministry of Health, Comprehensive strategy for the promotion of dementia measures (new orange plan): For the creation of a community friendly to the elderly with dementia (outline), *https://share.google/uA8WdAAYy8E6dPlpp.* The National Framework for Promotion of Dementia Policies (2019), *https://share.google/QNh2s581XJNKPW1q5*). (in Japanese)

appreciably. This finding suggests that the policy contributed, at least in part, to a shift in the place of death from hospitals toward institutional and community-based environments. In a retrospective cohort study (*27*) focusing on patients with moderate to severe dementia, the introduction of specialized dementia teams in acute-care hospitals was associated with a significant reduction in in-hospital mortality among those who actually received such specialized care, which indicates that specialized teams may play a beneficial role in acute-phase management for dementia patients. Nevertheless, important issues remain, including the lack of increase in home deaths, limited coverage of specialized team services, and the incomplete improvement of outcomes such as 30-day readmission rates. Although the Orange Plan and its subsequent revisions established ambitious goals and a comprehensive framework, empirical evidence regarding their effectiveness remains mixed and, at times, inconclusive. Existing studies suggest that national policies have contributed to modest shifts in patterns of healthcare utilization; however, methodological limitations preclude the attribution of these changes directly to the policies themselves. Consequently, the real-world impact of Japan's dementia policy continues to present significant challenges.

The National Framework for Promotion of Dementia Policies (*28*), approved by Cabinet decision in 2019, consolidated the previous efforts into a more permanent, long-term policy framework. Its two guiding principles were living in the community and prevention: ensuring that individuals with dementia could continue to live with dignity in their own communities, and promoting prevention and delay of disease onset through risk reduction strategies. Importantly, the Framework emphasized cross-ministerial collaboration, with the Ministry of Health, Labour, and Welfare, the Ministry of Education, and the Ministry of Economy, Trade, and Industry jointly involved in implementation. The 2019 Framework also underscored Japan's role in international collaboration, aligning with initiatives of the WHO and the G7 Global Dementia Summit, and it positioned dementia policy as a priority not only for domestic welfare but also for global health diplomacy. The same year, Japan convened a panel of experts in health policy and epidemiology to review indicators, existing research models, and emerging challenges through a series of discussions. The panel proposed methodological recommendations for evaluating both the status and outcomes of the Basic Act to Promote Dementia Policy (*29*). To date, however, Japan still lacks sufficiently mature empirical studies capable of comprehensively assessing the real-world achievement of the policy's key goals, such as building an "inclusive society" and facilitating prevention.

Overall, the trajectory from the Orange Plan (2012) to the New Orange Plan (2015) and finally the National Framework (2019) illustrates evolution from a service-oriented plan to a community-based, citizen-inclusive model and ultimately to a nationally institutionalized, cross-sectoral framework. The common threads across these policy iterations are the emphasis on community integration, early diagnosis, cross-sectoral partnerships, and sustainability. This phased approach demonstrates Japan's recognition that dementia is not only a clinical problem but a societal challenge requiring holistic, multi-faceted interventions.

4. Recent advances in drug therapy for Alzheimer's disease (AD) in Japan

In Japan, symptomatic treatments remain the mainstay for AD, such as NMDA receptor antagonists (*e.g.*, memantine) and cholinesterase inhibitors (*e.g.*, donepezil). A study of moderate-to-severe AD by Nakamura *et al.* (*30*) found that memantine has resulted in significant improvements in cognition (attention, language, visuospatial ability, and praxis) and behavioral symptoms such as agitation and aggression versus a placebo. Similarly, donepezil has been found to improve Severe Impairment Battery (SIB) and global impression (CIBIC-plus) scores in patients with severe AD, but there was no evidence of disease modification (*31*). However, the recent emergence of monoclonal antibodies has created new possibilities — and controversies — regarding the future of dementia care in Japan.

In recent years, in parallel with policy reforms, Japan has made significant strides in the approval and introduction of disease-modifying therapies (DMTs) targeting amyloid-β in AD, and particularly in its early stages. Lecanemab, a humanized monoclonal antibody targeting soluble amyloid-β protofibrils, was approved in Japan in September 2023 under the brand name Leqembi as the first DMT for early AD, which included mild cognitive impairment and mild dementia with confirmed amyloid pathology (*32*). Evidence from the CLARITY-AD phase 3 trial demonstrated that lecanemab significantly reduced clinical decline by 27% compared to a placebo at 18 months, as measured by the Clinical Dementia Rating–Sum of Boxes (CDR-SB) (*33*). Building upon this progress, donanemab, another humanized IgG1 monoclonal antibody targeting amyloid-β, received approval in Japan in September 2024 under the brand name Kisunla for the treatment of early symptomatic AD (*34*). This marked Japan as one of the earliest Asian countries to grant regulatory approval for multiple DMTs to treat AD. Evidence from the TRAILBLAZER-ALZ 2 phase 3 trial demonstrated that donanemab significantly slowed cognitive and functional decline compared to a placebo. In the Japanese subpopulation analysis, donanemab reduced decline in the Integrated AD Rating Scale (iADRS) by approximately 40% at 76 weeks among participants with a low-to-intermediate tau burden (*35*), which is consistent with global outcomes (*36*). More recently, the TRAILBLAZER-ALZ 4 open-label head-to-head comparator trial has offered further insights by directly comparing donanemab to aducanumab in early symptomatic AD (*37*). In that study, donanemab achieved amyloid plaque clearance in 37.9%, 70.0%, and 76.8% of participants at 6, 12, and 18 months, respectively, versus 1.6%, 24.6%, and 43.1% in the aducanumab arm. Importantly, the median time to clearance was significantly shorter with donanemab, without a disproportionate increase in the risk of amyloid-related imaging abnormalities (ARIA). These findings substantiate donanemab's role as a leading DMT candidate in terms of plaque removal efficacy. However, ARIA, such as cerebral edema or effusion, were also observed among participants receiving donanemab, although most remained asymptomatic (*38*). This finding underscores the necessity of rigorous safety monitoring during treatment.

While donanemab represents a major step forward in AD management in Japan by offering a disease-modifying option beyond symptomatic therapies such as cholinesterase inhibitors and memantine, its high cost and questions regarding criteria for discontinuing treatment remain an issue. From a healthcare policy perspective, the introduction of donanemab has sparked considerable debate in Japan. The Central Social Insurance Medical Council deliberated whether and how the drug should be included in national health insurance (NHI) (*39*). The estimated annual cost of therapy, reported to be approximately 3.08 million JPY (about USD 20,000) per patient, has raised concerns regarding cost-effectiveness and sustainability, particularly in a country where the prevalence of dementia is expected to surpass 7 million cases by 2025. Critics argue that widespread coverage could strain the fiscal stability of the healthcare system, while proponents highlight the potential for delaying institutionalization and reducing long-term care costs if the drug is effectively administered to appropriate patients. Ethical considerations are also salient: determining which patients should have access, how to balance risk against benefit, and the potential for expensive therapies to exacerbate inequalities in healthcare access. In addition to pharmacological DMTs, preventive interventions are also garnering attention. Recent studies have proposed that herpes zoster vaccination may have a protective effect against dementia through mechanisms involving neuroinflammation and immune modulation (*40*), offering a complementary avenue for reducing the dementia burden at the population level.

Moreover, Japan's approval and conditional insurance coverage of donanemab stand in contrast to a more cautious stance in Europe (*41*), where the European Medicines Agency (EMA) recommends not approving donanemab for AD, positing that the benefits of this drug were not sufficient enough to outweigh the risk of potentially fatal events. In recent years, several patients have died due to microbleeds in the brain. In the United Kingdom, the National Institute for Health and Care Excellence (NICE) has rejected donanemab due to its cost and "significant health risks" (*42*). This divergence highlights the differing regulatory philosophies in countries. Japan's rapid adoption of disease-modifying therapeutic interventions not only reflects the severity of its demographic challenges but also underscores its strong political commitment to dementia policy. In summary, the approval of donanemab marks a new chapter in Japan's therapeutic landscape, but its implementation depends on a robust biomarker-based diagnostic infrastructure, equitable financing mechanisms, and ongoing pharmacovigilance. In the future, the balance between innovation and sustainability will be a decisive factor shaping Japan's dementia policy.

5. Major challenges confronting Japan

5.1. Workforce shortages

Japan's dementia policy has been lauded for its comprehensiveness, and yet its implementation faces significant human resource and fiscal constraints. The demand for dementia-related care has outpaced the supply of qualified professionals, reflecting the broader demographic imbalance of an aging society with a shrinking working-age population. According to national surveys, the number of patients requiring dementia care is projected to exceed 6.5–7.0 million by 2025 (*43*), while the pool of long-term care workers and dementia-specialized physicians is expected to lag far behind. The Ministry of Health, Labour, and Welfare has acknowledged a shortfall of more than 300,000 care workers by 2025 if current recruitment and retention trends persist (*44*). As of 2020, the care worker shortage as reported by care facility managers is as high as 60.8% (*45*). This shortage extends not only to frontline care workers but also to geriatricians, neurologists, and psychiatrists with expertise in dementia (*46,47*), creating bottlenecks in both clinical diagnosis and community-based care delivery.

Workforce shortages are compounded by high turnover rates, According to the 2024 Hospital Nurses Survey Report, the nurse turnover rate in 2023 was as high as 11.3% (*48*). Contributing factors include low wages relative to workload and significant physical and emotional strain. Studies have shown that turnover rates among care workers in Japan are consistently higher than those in other healthcare sectors, with many workers citing "burnout" and "insufficient remuneration" as their primary reasons for leaving the field (*44,49*). Therefore, the labor force shortage is an urgent problem that Japan needs to address. Although Japan has gradually opened pathways for foreign care workers under economic partnership agreements (EPA) with countries such as the Philippines, Vietnam, and Indonesia, language barriers, interpersonal relationships, and a lack of confidence in workplace interactions have constrained their contribution (*50*). How to effectively address the growing demand for labor within the constraints of limited workforce resources will be a critical challenge in the future.

5.2. Fiscal pressures

AD dementia (ADD) costs have a significant impact on public-funded healthcare, long-term care systems, and families in Japan (*51*). A probabilistic modeling study estimated that the societal cost of dementia in Japan reached approximately 14.5 trillion yen in 2014 and is projected to increase 1.6-fold by 2060. These findings indicate that the economic burden of dementia in Japan is expected to become substantially greater in the coming decades (*52*). A more profound impact arises from the LTCI sector, where care for persons with ADD entails intensive manpower and support of a long duration, spanning at-home services, community day-care, and institutional care. In this context, dementia care has emerged as a dominant driver of growing expenditures in Japan's LTCI system (*53*). The LTCI that was introduced in 2000 provides broad coverage for community and institutional care, but the system is under financial strain due to the rising number of beneficiaries and limited revenue from premiums, which are paid predominantly by those age 40 years and older (*54*). In response, Japan has experimented with measures such as increasing copayments for higher-income older adults (*55*), promoting task-shifting to distribute responsibilities among different categories of healthcare workers (*46*), and incentivizing the use of digital technologies (*56,57*), including artificial intelligence-assisted monitoring and robotics. However, evidence on the cost-effectiveness and scalability of these solutions remains limited. The dual challenge of insufficient human resources and rising fiscal demands therefore represents a structural constraint on Japan's otherwise ambitious dementia policy framework. Addressing these shortages will require systemic reforms in workforce development, wage structures, and financing models, as well as sustained political will to balance fiscal discipline with the ethical imperative of providing equitable dementia care.

5.3. Early diagnosis and unequal distribution of medical resources

Japan's dementia policy strongly emphasizes early diagnosis, but substantial barriers persist in ensuring equitable and safe access to diagnostic and therapeutic innovations. Despite the establishment of Initial-phase Intensive Support Teams (IPISTs) and dementia-friendly consultation services under the Orange Plan, evidence suggests that many patients remain undiagnosed until the moderate or advanced stage of disease. Evidence from the City of Kobe indicates that two-thirds of patients receiving support already have moderate dementia and that over 50% wait more than one year from the first indications of dementia to interaction with the support team; moreover, only about half have a formal diagnosis of dementia at that point (*58*). The delay in early diagnosis largely stems from insufficient understanding of dementia symptoms and the disease itself among older adults, which reduces their willingness to participate in screening programs (*59*). In addition, disparities in the availability of diagnostic services — particularly in rural areas — further hinder timely detection and intervention. For example, positron emission tomography (PET) and cerebrospinal fluid (CSF) biomarker testing — necessary to confirm amyloid pathology in patients eligible for DMTs — are predominantly available in urban tertiary centers, creating a geographic inequity in diagnostic access (*60*). Japan's experience reflects a fundamental tension: while the government seeks to promote cutting-edge innovation, it must also ensure equitable and ethical distribution of diagnostic and therapeutic resources. The uneven availability of early diagnosis underscores the need for more robust evidence, including studies of real-world effectiveness and cost utility. Without such evidence, there is a risk that Japan's dementia strategy will exacerbate rather than reduce inequalities in care.

Moreover, an additional challenge lies in the implementation of subtype-specific screening and diagnostic pathways. Accurate classification of dementia subtypes (*e.g.* AD, vascular dementia, Lewy body dementia, and frontotemporal dementia) increasingly depends on biomarker and neuroimaging approaches, such as CSF and PET markers aligned with the amyloid, tau, neurodegeneration (AT[N]) framework. In Japan, multicenter PET and CSF studies have demonstrated the feasibility of AT (N) profiling in clinical settings (*61*), and yet national uptake remains limited. Meanwhile, more accessible plasma biomarkers are being actively developed. A Japanese cohort study found that the plasma Aβ42/40 ratio and p-tau217 had a high level of diagnostic accuracy in predicting amyloid positivity in PET, offering a less invasive alternative to PET/CSF that may help broaden subtype-specific diagnosis in community settings (*62*). The incorporation of plasma-based stratification could alleviate current bottlenecks in subtype diagnosis, enabling more equitable access to DMTs, assessment of eligibility, and more precise allocation of care.

6. From Japan to the rest of the globe

6.1. Three pillars: prevention, community support, and sustainable healthcare systems

The global action framework for addressing dementia is supported by three key strategic pillars: prevention of the condition and extension of healthy life expectancy, enhanced support for communities, and the sustainability of medical and long-term care systems. The first pillar is the success of Japan's dementia prevention policy. A growing body of evidence underscores that dementia is not an inevitable consequence of aging but is significantly modifiable through targeted public health interventions. The Lancet Commission on Dementia Prevention, Intervention, and Care (2020) identified twelve modifiable risk factors — including hypertension, diabetes, smoking, hearing loss, depression, physical inactivity, social isolation, and low educational attainment — which together may account for up to 40% of global dementia cases (*63*). A review summarized (*64*) multiple studies examining the effects of lifestyle interventions — including physical activity, dietary modifications, and social engagement — on the prevention or delay of cognitive decline and dementia. The findings indicated that such interventions are particularly effective in individuals at high risk of developing dementia. For aging societies, this implies that prevention must begin decades before symptoms manifest, with policies promoting health optimization midlife and equitable access to preventive care.

Numerous studies in Japan have sought to examine measures to prevent dementia. An 18-month randomized controlled trial among Japanese older adults with MCI — which included vascular risk management, exercise, nutrition, and cognitive training — did not find a significant effect on the primary cognitive composite score overall did noted benefits in subgroups with a high level of adherence (*65*). Moreover, cohort data further corroborate the involvement of lifestyle factors; adherence to a traditional Japanese diet rich in fish, soy, vegetables, green tea, *etc.*, has been associated with a substantially reduced risk of incident dementia in long-term Japanese cohorts (*66*). Efforts addressing hearing loss also appear promising. In addition, Miyake *et al.* (*67*) found that hearing impairment was associated with mild cognitive impairment in middle-aged adults in Japan. These findings suggest that midlife hearing screening and correction may be an important aspect of dementia prevention policy.

The second pillar is the policy, which relies not only on success of Japan's dementia prevention but also on the strength of the social infrastructure that enables individuals with dementia to live with dignity within their communities. The New Orange Plan and National Framework emphasized the creation of dementia-friendly communities, so urban areas have begun experimenting with "dementia-inclusive city planning" introducing memory cafés, and volunteer-led support networks (*68*). These cafés play an important role in supporting individuals at the early stages of cognitive impairment by providing opportunities for social interaction, peer support, and private consultation in a safe and welcoming environment.

The third pillar of Japan's dementia policy framework focuses on the sustainability of medical and long-term care systems, which are under increasing strain due to population aging and the rapid rise in dementia prevalence (*69*). Japan's universal health insurance and LTCI systems, while comprehensive, face escalating fiscal pressure as the number of older adults requiring care grows and healthcare expenditures continue to rise. Ensuring sustainability requires optimizing the balance between service demand, workforce capacity, and financial resources. Recent policy directions emphasize integrated community care, the promotion of preventive health measures, and the use of digital technologies — such as artificial intelligence and remote monitoring — to reduce care burden and enhance efficiency (*70,71*). Moreover, reforms encourage task-shifting among healthcare professionals to mitigate workforce shortages and expand access to dementia services, particularly in underserved rural areas. In addition, expanding the role of nursing staff into psychosocial care, behavioral management, and adjusting the pacing of care based on patient needs has shown promise in Japan. Nurses certified in dementia nursing in acute care settings carry out assessments of apathy and tailor the frequency of interaction, the care environment, and family involvement to reduce patient distress (*72*). Training programs using virtual reality and person-centered care curricula have significantly improved nurses' confidence, attitudes, and ability to deliver both psychosocial and medical forms of dementia care (*73*). Long-term sustainability will depend not only on financial reforms but also on fostering community-based support networks and public participation to create a system that is both economically viable and socially inclusive (*74*).

6.2. Transferability of Japan's experience

While Japan has pioneered several innovative responses to dementia, the transferability of these experiences to other contexts requires careful scrutiny. Some policies are culturally embedded, while others offer universal lessons. The Japanese Integrated Community Care System (ICCS) has attracted global attention as a paradigm of decentralized, locality-driven care. Its emphasis on place-based networks — where health, welfare, and housing converge — addresses the fragmentation often seen in Western healthcare systems. Countries with comparable administrative structures and strong local governance may adopt similar frameworks; in regions with limited decentralization or weak municipal authority, however, there may be substantial barriers to implementation.

Task-shifting strategies in Japan, which empower non-physician providers and community workers, represent another potentially transferable practice. In resource-limited countries, such models can alleviate workforce shortages, particularly given the projected global shortfall of 18 million health workers by 2030 (*75*). However, successful transfer requires investment in standardized training, supervision, and cultural adaptation. A study conducted in South Korea noted the feasibility of this program, providing further evidence of its adaptability and potential effectiveness across different cultural and healthcare settings (*76*). Japan's digital innovations in AI-based cognitive screening may offer some of the most universally applicable insights. Japan has developed a computer-based cognitive assessment tool designed for the early detection of dementia risk (*77*). Such systems have the potential to transcend cultural boundaries and may be particularly valuable in regions with dispersed populations. However, challenges related to digital literacy, privacy, and health data governance must be addressed to ensure their global scalability and ethical implementation.

6.3. Japan's policy paths from the short term to the long term

Addressing the global dementia challenge requires a phased strategy that balances immediate feasibility with long-term sustainability. Short-term policies should focus on strengthening early diagnosis and risk reduction. Governments can integrate dementia risk assessments into existing non-communicable disease (NCD) prevention programs, promote public awareness campaigns regarding modifiable risk factors, and expand training programs for general practitioners to recognize early cognitive decline. Medium-term strategies should emphasize system-building and capacity expansion. This includes developing community-based care infrastructures modeled on Japan's integrated approach, scaling up task-shifting to alleviate human resource shortages, and investing in caregiver support systems. Fiscal reforms, such as outcome-based reimbursement for new therapies and targeted subsidies for high-need groups, can help manage rising healthcare expenditures. In parallel, the deployment of digital tools for screening, monitoring, and caregiver communication should be expanded to bridge gaps between urban and rural areas.

Long-term policies must envision sustainable systems that can endure demographic pressures. This requires embedding dementia-friendly principles into urban planning, ensuring accessible public transportation, housing modifications, and inclusive community spaces. At the financing level, governments should pursue multi-payer models that balance public insurance with private-sector innovation while protecting equity. Priority should be given to research investments in novel therapeutics, preventive vaccines, and social intervention strategies, accompanied by global collaboration to pool data and accelerate discovery. Moreover, international coordination — through WHO or regional consortia — can facilitate knowledge transfer and harmonized strategies across nations at different stages of demographic transition. Ultimately, an effective global dementia strategy must align public health imperatives with social values, ensuring that aging societies remain not only medically supported but socially inclusive. By combining evidence-based prevention, robust community support, and sustainable financing, policymakers can formulate dementia strategies resilient enough to withstand the profound demographic shifts of the 21st century.

7. Conclusions and Perspectives

Japan's experience offers valuable insights into the governance, policy, and care frameworks required to respond to dementia in super-aged societies. However, it also highlights the complexities of balancing innovation, sustainability, and equity in dementia care. To address the growing global burden of dementia in a scientifically rigorous and socially equitable manner, coordinated international action is essential. Such efforts should integrate dementia prevention, community-based support, and sustainable healthcare systems into a cohesive global framework. This approach not only promotes health equity and cost-effectiveness but also ensures that individuals living with dementia can maintain their dignity and quality of life across diverse cultural and socioeconomic contexts.

Several key lessons can be learned. First, prevention must remain central, supported by evidence from the Lancet Commission and WHO guidelines showing that up to 40% of dementia cases may be attributable to modifiable risk factors (*63*). Second, sustainable dementia strategies must extend beyond the biomedical domain to encompass community-based support, caregiver protections, and dementia-friendly urban design. Third, the Japanese model reveals both transferable practices — such as integrated community care, task-shifting, and digital screening—and culture-specific elements that may require adaptation in other contexts. For countries at earlier stages of demographic transition, these insights offer a roadmap for proactive policy design.

Nonetheless, significant challenges persist. Japan continues to face shortages of specialized physicians and long-term care workers, highlighting the fragility of workforce sustainability. Fiscal pressures are intensifying, particularly as new costly therapies enter the market. Moreover, early diagnosis remains uneven, with rural-urban disparities in resource availability. Ethical debates surrounding DMTs — and especially in light of uncertain clinical benefit, risks of amyloid-related imaging abnormalities, and inequities in reimbursement — further hamper implementation. These limitations underscore the need for cautious, evidence-based decision-making rather than uncritical adoption of novel interventions.

This review also has its own limitations. Much of the existing literature on the effectiveness of Japan's dementia policies, such as evaluations of the Orange

Plan, remains preliminary and descriptive rather than based on rigorous long-term outcomes or cost-effectiveness analyses. Evidence gaps also exist regarding the scalability of integrated community care outside Japan, the long-term impact of digital screening tools, and the comparative effectiveness of emerging therapeutics in real-world settings. Moreover, Japan provides an illustrative case, but extrapolation to countries with different cultural, institutional, or economic contexts must be done carefully.

Future research should therefore prioritize three directions. First, cross-country pilot studies are needed to evaluate the feasibility of transferring elements of the Japanese model, and particularly integrated care and community-based interventions, to diverse healthcare contexts. Second, robust economic evaluations — including cost-utility analyses of DMTs and community-based prevention — are essential to guiding resource allocation in both high-income and resource-limited settings. Third, long-term cohort studies and real-world follow-ups are critical to assessing the sustainment of therapeutic benefits, evolution of the caregiver burden, and the broader societal impact of dementia strategies.

Funding: This work was supported by Grants-in-Aid from the Ministry of Education, Science, Sports, and Culture of Japan (24K14216) and the Hainan Provincial Postdoctoral Science Foundation.

Conflict of Interest: The authors have no conflicts of interest to disclose.

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Received September 28, 2025; Revised October 25, 2025; Accepted October 28, 2025.

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Released online in J-STAGE as advance publication October 31, 2025.