FROM SILENT EPIDEMIC TO MEASURABLE VALUE

RETHINKING ALZHEIMER'S THROUGH A HEALTH SYSTEMS LENS

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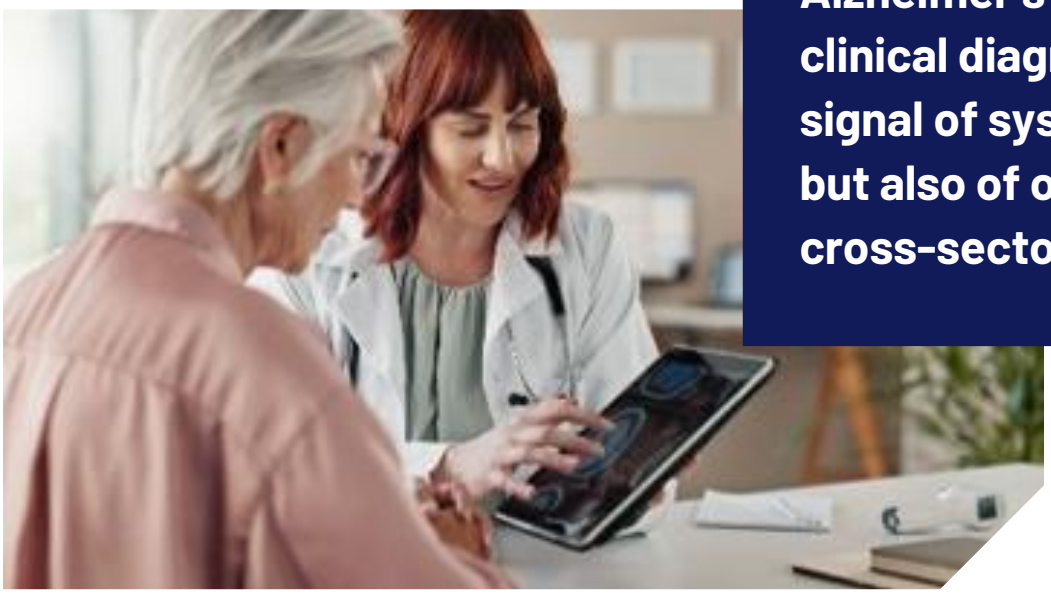
Executive Summary

Alzheimer's Disease (AD) is often perceived through a narrow clinical or caregiving lens, largely focused on late-stage symptoms and palliative support. However, this view fails to capture the broader, system-wide implications of a disease that is becoming one of the most profound public health challenges of the 21st century. As populations age globally, AD functions as a stress test for health systems, exposing critical gaps in infrastructure, financing, health technology assessment (HTA), and equity.

Global dementia prevalence is projected to triple from 55 million in 2019 to 152 million by 2050, with costs expected to roughly double from USD 1.3 trillion in 2019 by 2030 (WHO, 2021).

This white paper reframes AD as not only a neurodegenerative condition but also a health system multiplier, affecting cost structures, diagnostic pathways, workforce needs, and social care delivery. We explore how real-world evidence (RWE) and health economics and outcomes research (HEOR) must evolve to reflect this complexity and outline strategic recommendations for improved access, payer engagement, and policy alignment.

By leveraging digital tools, rethinking traditional value frameworks, and embedding equity into every stage of evidence generation and access planning, we can move from managing decline to enabling resilience. Alzheimer's is not merely a clinical diagnosis. It is a signal of systemic strain, but also of opportunity for cross-sectoral innovation.



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Alzheimer's as a Health System Risk Multiplier

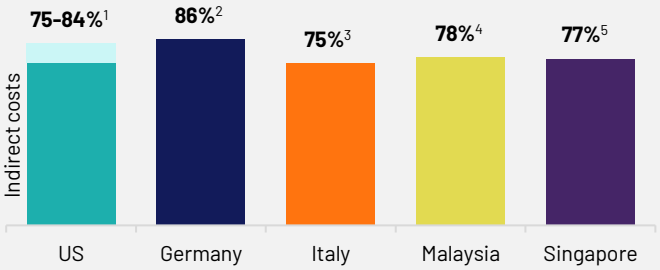
Reframing Burden Beyond the Brain

Alzheimer's Disease is not an isolated diagnosis. It initiates a complex, cascading series of events that challenge health systems and society at large. As the disease progresses, patients experience heightened risks of falls, infections, comorbidity exacerbation, medication mismanagement, and hospitalisations.

Dementia patients are 2–3 times more likely to be hospitalised for preventable conditions compared to those without dementia (Bynum et al., 2004). The system, in turn, faces elevated costs, care coordination failures, and escalating demand for long-term and community-based services.

Most traditional economic evaluations, particularly cost-effectiveness analyses (CEA) and budget impact models, focus narrowly on the direct costs of treatment and diagnosis. However, AD generates extensive indirect costs (Fig. 1), many of which are shouldered by informal caregivers and social services.

Fig. 1. Indirect costs as a % of AD burden



Source:
1: Hurd et al., 2013
2: Martins et al., 2022
3: Mennini et al., 2025
4: Ong et al., 2025; 5: Wang et al., 2014

Yet indirect costs remain underrepresented in HTA models and policy dialogues. These include:

- **Increased hospitalisations due to falls or secondary conditions** such as aspiration pneumonia, which are associated with increased morbidity and mortality (Mitchell et al., 2009).
- **Institutionalisation costs** when home-based care becomes unmanageable, which are among the largest components of dementia-related direct costs (Wimo et al., 2017; Leibson et al., 2015).
- **Lost productivity** among working-age family caregivers with opportunity cost estimated between USD 157 billion (Hurd et al., 2013) and USD 500 billion annually in the US (Chari et al., 2015).
- **Physical and emotional deterioration** of caregivers, which often leads to increased utilisation of health services by those individuals (Schulz & Sherwood, 2008).

Yet, there are well-documented gaps around caregiving burden and the indirect cost associated with AD. These include inconsistent measurement and valuation of informal care, underrepresentation of low- and middle-income countries (LMICs) and many parts of Asia, the Middle East and North Africa (MENA) region and rural settings, missing productivity and labour market impacts beyond time spent caring, equity and heterogeneity gaps, and carer health impacts. Further research is therefore needed on these aspects of caregiver burden and AD management.

Strategic Recommendation

Expand HEOR models to reflect ripple effects beyond the patient, such as caregiver burden, comorbid care escalation, and accelerated institutionalisation. This necessitates the integration of intersectoral data and the development of new methods to quantify long-term societal value (Garrison et al., 2021).

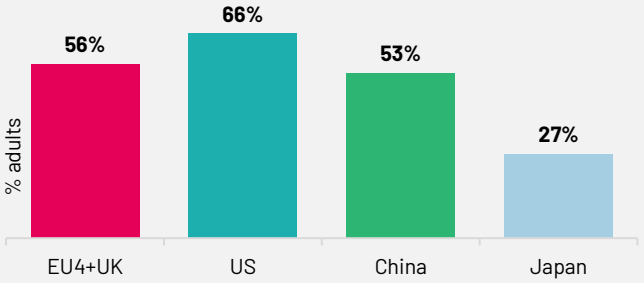
Decentralised RWE and Early Signal Generation

Bridging the Detection Gap

AD is unfortunately underdiagnosed, particularly in its early stages, due to a combination of factors at the patient, provider and healthcare system levels. By the time most patients receive a formal diagnosis, the opportunity for meaningful intervention has narrowed.

Up to 75% of dementia cases worldwide remain undiagnosed, particularly in LMICs (Gauthier et al. 2021). Median delays from symptom onset to diagnosis range between two and three years (Boise et al., 1999; O'Brien et al., 2014). Data from the Ipsos Consumer Study 2024 on attitudes towards memory health among adults aged 18+ who have not been diagnosed with AD (Fig. 2) highlights a varied willingness to undergo AD diagnostic testing, with willingness to undergo testing associated with a higher likelihood to accept treatment. This suggests that personal experience and knowledge of AD play a crucial role in shaping attitudes towards diagnosis and the potential requirement for differentiated educational initiatives for certain patient subgroups.

Fig. 2. % respondents who reported T2B willingness to take a diagnostic blood test if experiencing symptoms of mild cognitive impairment (MCI)



Source: Ipsos Consumer Study on attitudes towards memory health (August 2024, 804 adults aged 18 years or older across EU4+UK, US, China and Japan, data collected online). Data are © Ipsos 2025, all rights reserved.

> **Personal experience and knowledge of AD play a crucial role in shaping attitudes towards diagnosis**

Emerging digital tools, such as natural language processing, gait sensors, and cognitive wearables are changing this landscape. These technologies offer decentralised, passive, and earlier screening, creating new opportunities for both prevention and preclinical intervention.

Recent innovations include:

- **Natural Language Processing (NLP)** models that analyse subtle speech irregularities which may indicate cognitive decline years before clinical diagnosis, and have achieved ~80% accuracy in distinguishing early AD patients from controls (Fraser et al., 2016).
- **Gait and mobility sensors** worn at home, capable of detecting patterns associated with early-stage dementia with >85% sensitivity (Salvi et al., 2025).
- **Artificial intelligence (AI)-powered digital biomarkers** from smartphone usage, typing behaviour, and voice recordings are also promising.

These tools can stratify risk at scale, feeding into RWE repositories that inform cost-benefit analysis and enable health systems to model value far earlier in the disease trajectory.

However, there is hesitancy among payers to accept such decentralised real-world data (RWD) sources. Questions about data reliability, reproducibility, and regulatory endorsement limit their integration into access dossiers.

Strategic Recommendation

Incentivise and standardise payer acceptance of digital RWE sources by establishing validation protocols, real-world demonstration pilots, and public-private consortia focused on decentralised diagnostics.

Equity and Inclusion in HEOR and Market Access

Who Gets Left Behind?

Alzheimer's prevalence may be universal, but its diagnosis, treatment, and support structures are deeply inequitable.

In the US, Black Americans are about twice as likely, and Hispanic Americans 1.5 times as likely, to develop Alzheimer's compared to White Americans (Alzheimer's Association, 2023). Yet, over 90% of clinical trial participants for AD drugs are White (Grill & Karlawish, 2010).

Alzheimer's prevalence may be universal, but its diagnosis, treatment, and support structures are deeply inequitable.

Rural patients face diagnostic delays that are up to two years longer than urban counterparts (Lin et al., 2020). Socioeconomic status is also strongly predictive of dementia incidence and care access, with low-SES groups more likely to experience delayed diagnosis (Glymour & Manly, 2008).

As Glymour and Manly (2008) note, life course social conditions significantly influence cognitive ageing. However, such context rarely features in HEOR models, which often assume universal access and engagement.

Additionally, the dominant outcome metric, Quality-Adjusted Life Years (QALYs), does not account for cultural or contextual nuances. For instance, the social value of caregiving in multigenerational Asian households, or the impact of language loss in bilingual communities, is not reflected in utility scores. It's also difficult to quantify health state utilities in a situation whereby the person is typically in a cognitively impaired state and may not be able to undertake an accurate quality of life (QoL) assessment.

This raises pressing questions about how value is defined, and for whom.

Strategic Recommendation

Develop equity-adjusted HEOR frameworks that include variables such as delayed diagnosis, geographic care deserts, language barriers, and caregiver network strength. Engage patient advocacy groups and community leaders in model validation.

Positioning AD Therapies as System-Level Interventions

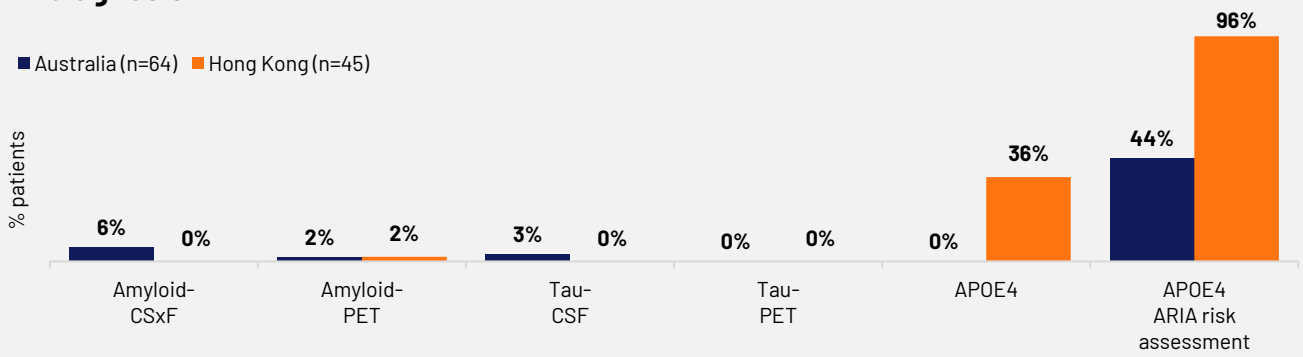
Beyond the Pill

The emergence of disease-modifying therapies (DMTs) such as aducanumab and lecanemab marks a new era in AD management. In the Clarity AD trial, lecanemab reduced clinical decline by 27% on CDR-SB over 18 months (van Dyck et al., 2023). These therapies aim to alter the disease trajectory, but deployment requires a tightly coordinated ecosystem of diagnostics, monitoring, and workforce readiness.

Key infrastructure challenges include:

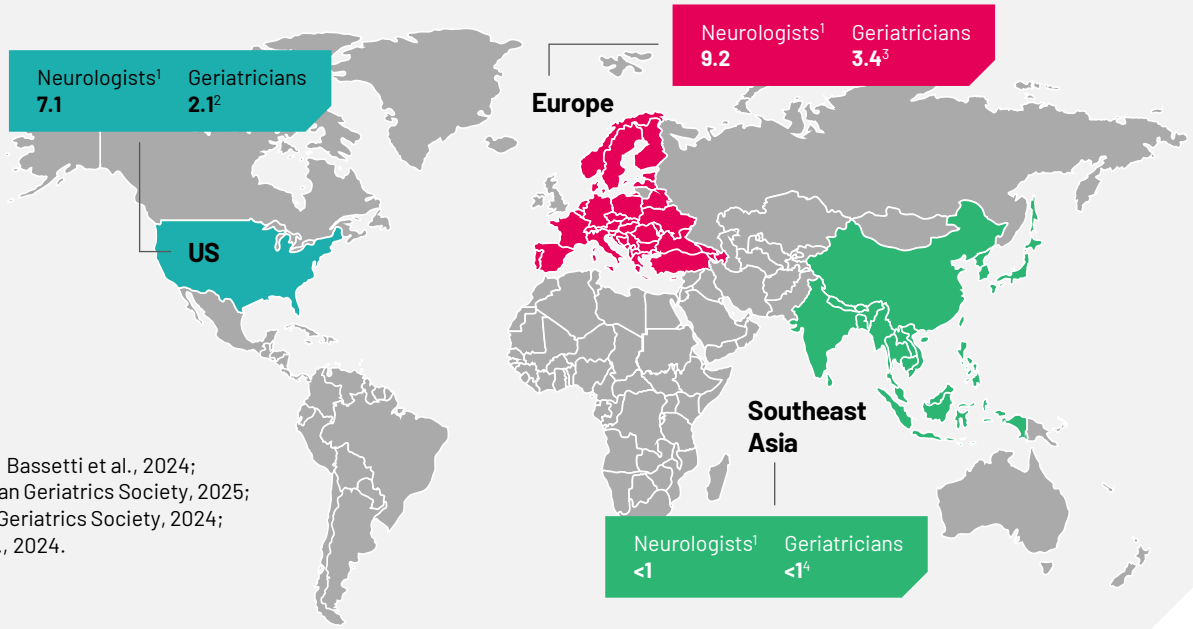
- **Advanced diagnostics**: Positron emission tomography (PET), magnetic resonance imaging (MRI), and genetic tests are essential for patient selection but cost USD 3,000–5,000 per scan per scan in the US, and are limited in accessibility (Leibson et al., 2015). Data from Ipsos' Alzheimer's Disease Monitor 2024 highlights the underutilisation of AD diagnostic biomarker testing, which potentially limits identification of patient candidates for DMTs (Fig. 3). Innovative digital screening tools are also limited in access, although the emergence of blood-based biomarkers may address these limitations.
- **Monitoring requirements**: These therapies may involve infusion-based delivery and carry risks that require regular assessment (e.g., ARIA events), placing further strain on an already short supply of clinical specialists.

Fig 3. % reported patients who received imaging and cerebrospinal fluid (CSF) to confirm AD diagnosis



Source: Ipsos Alzheimer's Disease Therapy Monitor (conducted in Australia (July-September 2024) and HK (November–December 2024) among neurologists and geriatricians, data collected online. Participating physicians were primary treaters and saw a minimum number of patients per wave. Data are © Ipsos 2025, all rights reserved.

Fig 4. Clinicians per 100,000 population



Source: 1: Bassetti et al., 2024; 2: American Geriatrics Society, 2025; 3: British Geriatrics Society, 2024; Ryan et al., 2024.

- **Specialist availability**: Neurologists and geriatricians are already in short supply in many regions (Fig. 4). In the U.S. in 2012, there was an estimated neurologist shortfall of 11%, projected to rise to 19% by 2025, due to increasing demand outpacing supply (Dall, 2013). Many neurologist shortages persist even in Europe, despite the relatively higher numbers, because of regional maldistribution, increasing demand, ageing population, and burnout (Burton, 2018). Asia is the fastest-growing continent. Although detailed neurology numbers are sparser, studies note that the neurology workforce per population is very low in many LMICs, meaning older adults do not have access to physicians with formal neurology training (Bassetti et al., 2024).

Traditional pricing and reimbursement frameworks are poorly equipped to capture the value of such complex interventions. Care costs also weigh heavily: institutionalisation can cost USD 100,000 per patient per year (Genworth Cost of Care Survey, 2024). Delaying institutionalisation by just one year could therefore saves ~USD 100,000 per patient. Focusing solely on biomarker improvement misses the broader benefits, such as:

- Delayed need for 24/7 institutional care
- Reduced caregiver burnout and indirect health costs
- Prolonged capacity for self-care and decision-making
- Decreased emergency service use

These are outcomes that resonate with system planners, not just clinicians.

Strategic Recommendation

Position AD therapies as part of a bundled system solution, incorporating diagnostics, digital monitoring, and caregiver support. Advocate for milestone-based reimbursement models tied to functional independence metrics.

Strategic Implications for Market Access Teams

Rethinking the Access Playbook

As of 2023, over 40 countries have national dementia strategies (WHO GDO, 2023). As the Alzheimer's landscape evolves, so must the strategies employed by market access and policy teams. The traditional focus on cost-per-QALY or payer pushback is inadequate for a disease that challenges so many layers of health infrastructure.

Strategic shifts may include:

- **Therapy-Diagnostic Bundling**
  Rather than positioning DMTs as standalone innovations, pair them with diagnostics and monitoring tools. This provides a full value proposition and supports payer confidence.
- **Policy Alignment with Ageing Agendas**
  Many countries now have national dementia strategies or broader ageing-in-place goals. Align value messaging with these policy narratives to secure public funding and multi-stakeholder buy-in.
- **Innovative Payment Models**
  Consider Coverage with Evidence Development, milestone-based contracts, subscription models, or outcomes-based rebates tied to delayed institutionalisation or reduced hospitalisation.
- **Private and Alternative Financing**
  Explore expanded funding options to drive and accelerate market penetration. For example, medical loans, instalment or subscription models from financial institutions, or coverage by private health insurance policies.
- **Real-World Demonstration Projects**
  Implement pilot programmes across regions with diverse demographic and infrastructural characteristics to generate data on system-wide outcomes. For example, In the US, the IDEAS Study showed that PET-based diagnosis changed clinical management in 60% of cases, supporting payer confidence in diagnostic-linked reimbursement (Rabinovici et al., 2019).

Strategic Recommendation

Expand the access toolkit to include public policy partnerships, cross-sector financing schemes, and collaborative RWE platforms. This approach turns AD from a payer dilemma into a policy opportunity.

Conclusion: A Systems Lens for a Systems Disease

Alzheimer's Disease exemplifies the direction in which many chronic conditions are moving: Multifactorial, socially embedded, and economically consequential. It challenges siloed thinking and demands a response that is as holistic as the disease is pervasive.

We propose a shift from viewing AD as a late-stage inevitability to framing it as a systemic risk factor and a unique opportunity for innovation. By adopting whole-system value models, embracing decentralised RWD, embedding equity at every touchpoint, and redesigning access frameworks, we can fundamentally change the trajectory of how Alzheimer's is managed.

The challenge is urgent, the opportunity is historic.

Alzheimer's Disease exemplifies the direction in which many chronic conditions are moving: multifactorial, socially embedded, and economically consequential.

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