

# Industry's Role in Translating Research into Clinical Impact

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National Alzheimer's Project Act (NAPA)
Advisory Council on Alzheimer's Research, Care, and Services
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# Disclosure



- · Amir A. Tahami is an employee of Eisai Inc.
- These slides present information on lecanemab, a product that has received approval
  from the US Food and Drug Administration (FDA) through the accelerated approval
  pathway, relying on surrogate endpoints. However, it's crucial to note that the ongoing
  approval for this indication is subject to verification of clinical benefit in a confirmatory
  trial.
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- The studies of lecanemab discussed within this slide deck are sponsored by Eisai Inc.

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# **An Overview**

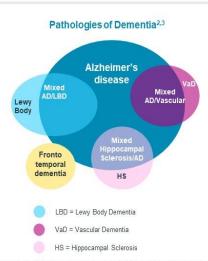




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# A Chronic Progressive, Irreversible Neurodegenerative Disorder





- · AD is the cause of 60-80% of all dementia cases1
- Other pathologies include Lewy body dementia, vascular dementia and hippocampal sclerosis<sup>2</sup>
- Dementia refers to a group of symptoms, including difficulties with memory, language and cognitive skills, that affect a person's ability to perform daily activities<sup>1</sup>
- AD is the fifth largest global cause of death, resulting in approximately two million deaths each year<sup>4</sup>
- As prevalence increases, the number of deaths caused by AD and other dementias will also increase, with more deaths caused by dementia than cancer by 2040<sup>5,6</sup>
- There is an unmet need for treatment that can impact the underlying pathophysiology of AD, in order to delay the progression of AD and improve the clinical outcome of the patient<sup>7</sup>

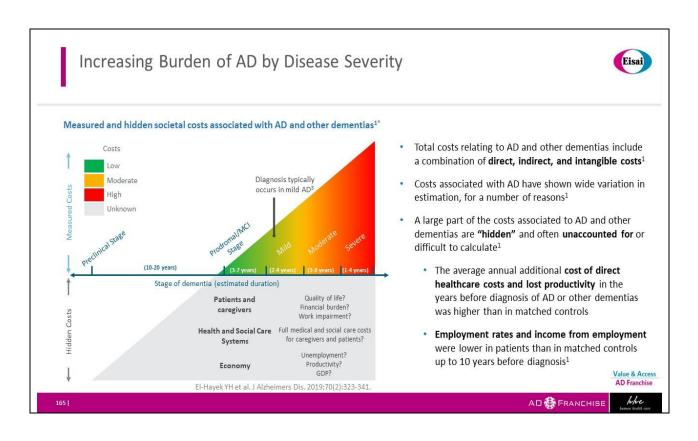
1. Alzheimer's Association. 2018 Alzheimer S Disease Facts and Figures. 2018;1(4):3):367-429. 2, Siemers E. The changing diagnostic criteria for AD, including early asymptomatic disease stages and their impact on clinical trial design. EFPIA Working Group. 2014. 3. Barker WW et al. Relative frequencies of Alzheimer Disease. Disor 2002;16(4):203-12. 4. WHO. Global health estimates 2015 summary tables. Work Health Origination, 2018. 5. The Economics. 1021 6. Ethic Office and the Common training language of the Sociation and Common training and the Common

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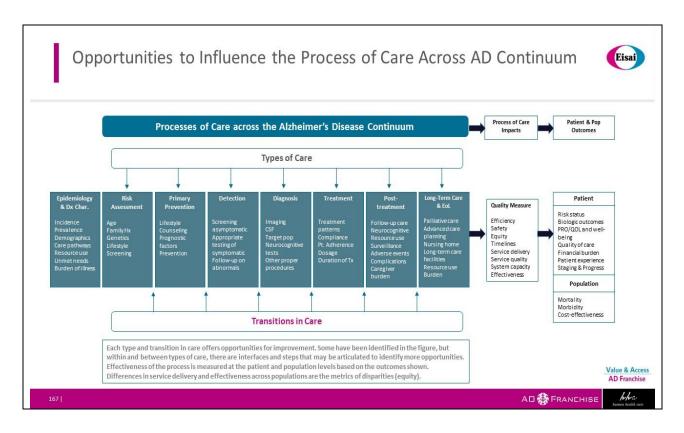
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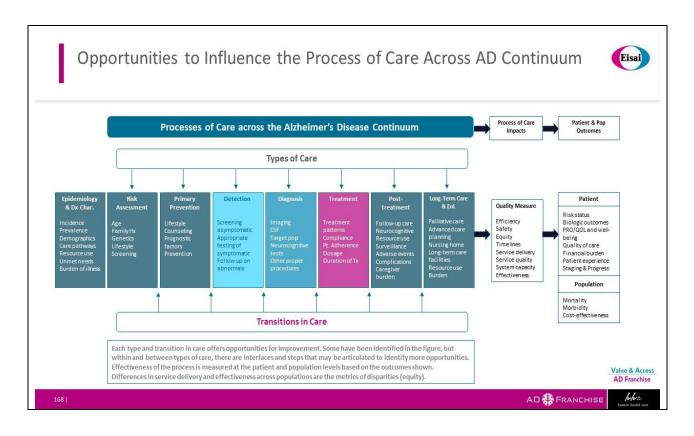
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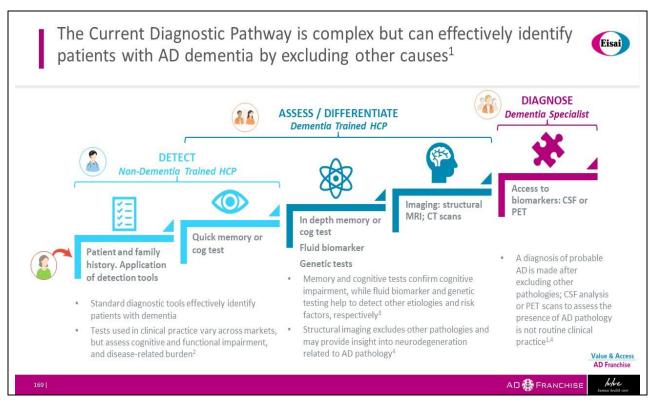
# Global Socioeconomic Costs of Alzheimer's Eisai Several different drivers contribute to AD costs, which often come from different budgets Costs associated with caregiving can fall under In many markets, the direct medical costs many buckets, such as opportunity costs, associated with Alzheimer's and other direct costs to the caregiver and cost of dementias are covered by national or regional unpaid care1-4 healthcare systems and governments<sup>6</sup> Institutionalization, e.g., nursing homes, are often required in later stages of AD, however Social care costs are often funded from public depending on the market and situation, funding, e.g., tax, pension contributions or government grants, or can be privately financial responsibility can fall to patients and their family7 funded<sup>5</sup> Value & Access AD 🍪 FRANCHISE

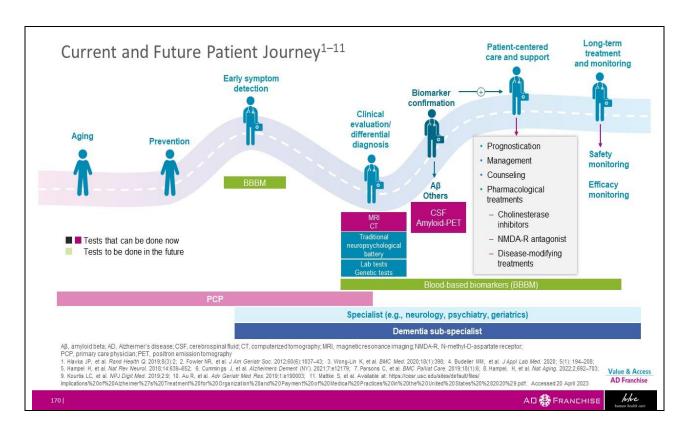


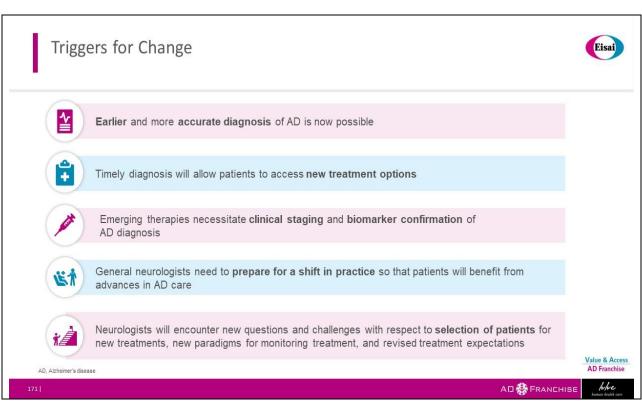
# Clinical Care Pathway As a tool to translate research into clinical impact Eisa Liss | Confidential For Internal use only.







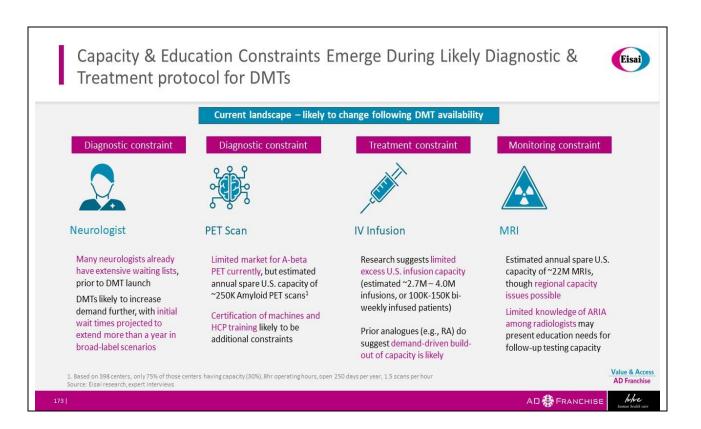




## System Constraint in Addressing AD Patients' Needs Projected Wait Times for AD Diagnosis and Treatment AD care statistics for US Health System (average time delay in months) Large gap between officially US population: 63.4M diagnosed AD patients (340k) and prevalence estimates 18 Very high-capacity constraint Estimated active dementia cases: 1.1M 16 in the immediate future due 14 to limited number of 12 specialists and biomarker Number of neurologists: 17,408 testing, leading to significant 10 barriers for early diagnosis Number of geriatricians: 7,560 Number of geriatric psychiatrists: 1,953 Specialists per 1,000 people: -■ Dementia specialist visit ■ Biomarker testing ■ Infusion treatment

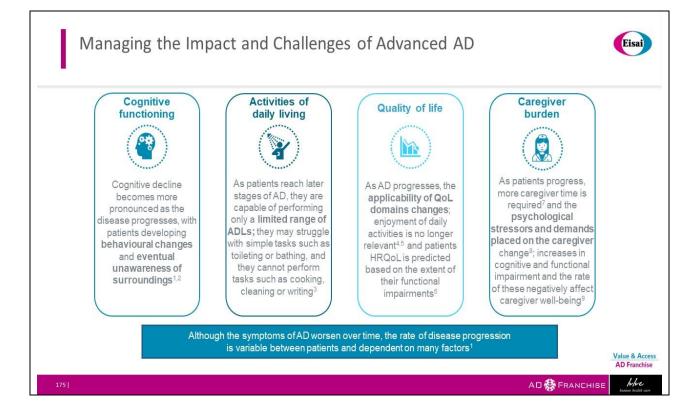
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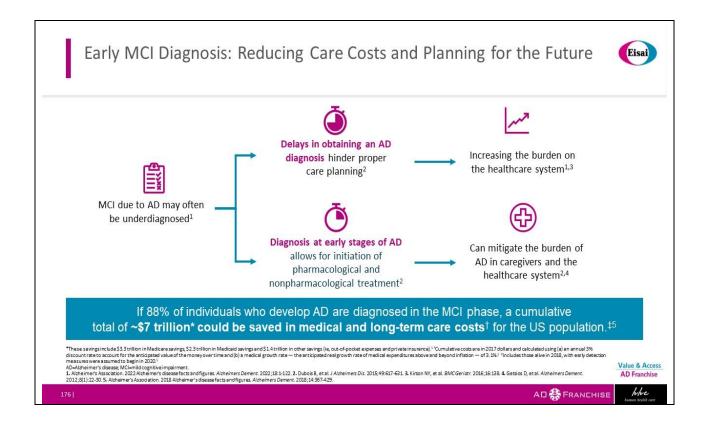
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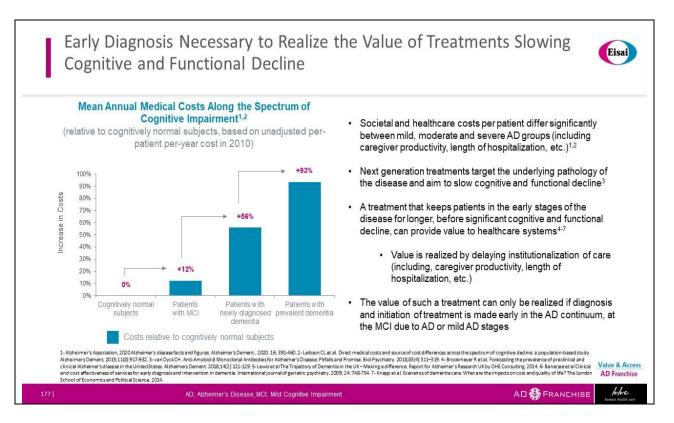


Source: Liu JL et al. Assessing the Preparedness of the U.S. Health Care System Infrastructure for an Alzheimer's Treatment. Santa Monica, CA: RAND. Corporation, 2017. https://www.rand.org/pubs/research\_reports/RR2272.html



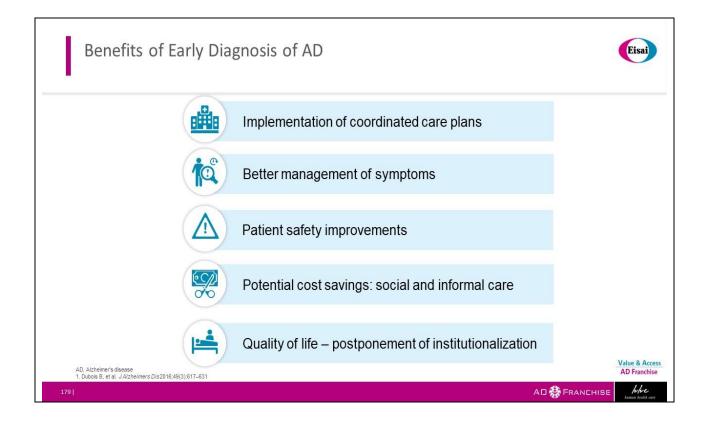






### Costs Associated with Alzheimer's Disease Progression Eisai Highest Impact from MCI to Mild AD Objective Economic burden associated with daily progression of AD To estimate the economic burden of daily transitions\* to later 400.000 stages of AD in the US \$323.891 Results **↔** 300,000 Daily cost, 200'000 Number of daily transitions and annual burden estimates per patient Number of patients \$143,923 Annual transition costs per patient per day \$88,747 100,000 MCI due to AD† to mild AD 5,792 \$20,410 Mild AD<sup>‡</sup> to moderate AD 2,308 \$14,035 MCI to mild AD Mild AD to Moderate AD to (n=5,792) moderate AD severe AD (n=1,438) (n=2,308) Moderate§ AD to severe AD 1,438 \$36,519 Timely intervention may slow AD progression and mitigate the economic and health burden of AD in the US sed a funnel-based approach by deriving prevalence of all-cause MCI and AD dementia clinical syndrome among the US population aged 250 years from previously published studies and applying annual transition probabilities from the National AD dementia clinical syndrome among the US population aged 250 years from previously published studies and applying annual transition probability of transition individuals were estimated to have MCI due to AD with a 30.7% annual probability of transitioning to moderate AD in 2021. \*Approximately 2.7 million individuals were estimated to have mid AD with a 33.6% annual probability of transitioning to moderate AD in 2021. \*Approximately 1.7 million individuals were estimated to have moderate AD with a validational probability of transitioning to severe AD in 2021. \*\*Approximately 1.7 million individuals were estimated to have moderate AD with a validational probability of transitioning to severe AD in 2021. \*Approximately 1.7 million individuals were estimated to have moderate AD with a validation of the control of the con Value & Access

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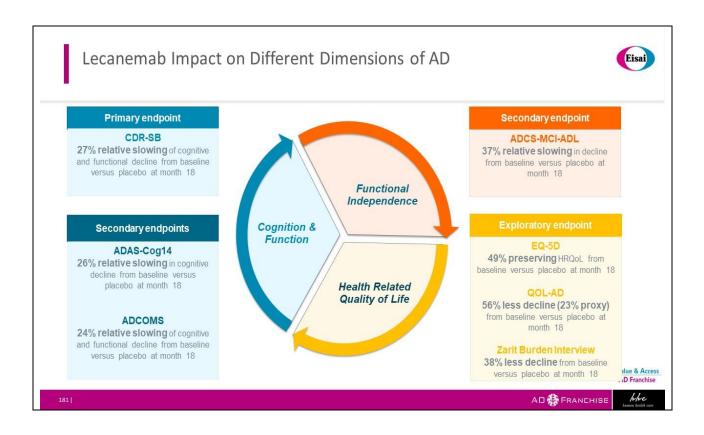


# Impact of Intervention Clarity AD Trial





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# Most Common Adverse Events



Adverse Events Of Special Interest (Pooled preferred terms [PTs])	Placebo (n=897) %	Lecanemab (n=898) %
Infusion-related reaction	7.4	26.4
ARIA-E	1.7	12.6
ARIA-H (pooled PTs)	9.0	17.3
Isolated ARIA-H (pooled PTs)	7.8	8.9

Other Adverse Events >5%	Placebo (n=897) %	Lecanemab (n=898) %
Headache	8.1	11.1
Fall	9.6	10.4
Urinary tract infection	9.1	8.7
COVID-19	6.7	7.1
Back pain	5.8	6.7
Arthralgia	6.9	5.9
Dizziness	5.1	5.5
Diarrhea	6.5	5.3
Anxiety	4.2	5.0

 There were no significant trends in mean changes over time or shifts from baseline for any of the laboratory, ECG or vital sign parameters and no notable differences between groups

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182 ARIA-E, amyloid related imaging abnormalities - edema; ARIA-H, ARIA-H, ARIA with hemosiderin deposits; COVID-19, coronavirus disease of 2019 ECG, electrocardiogram.

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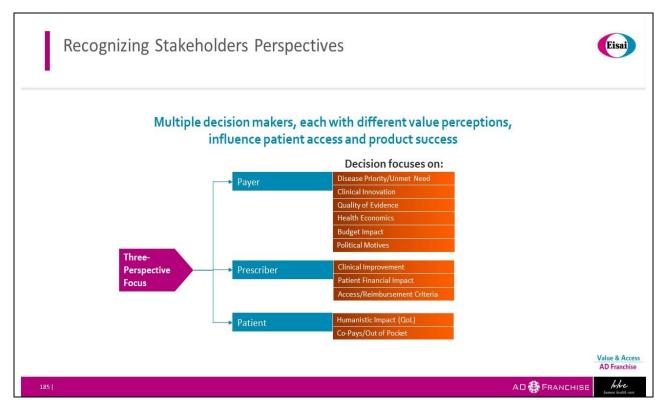


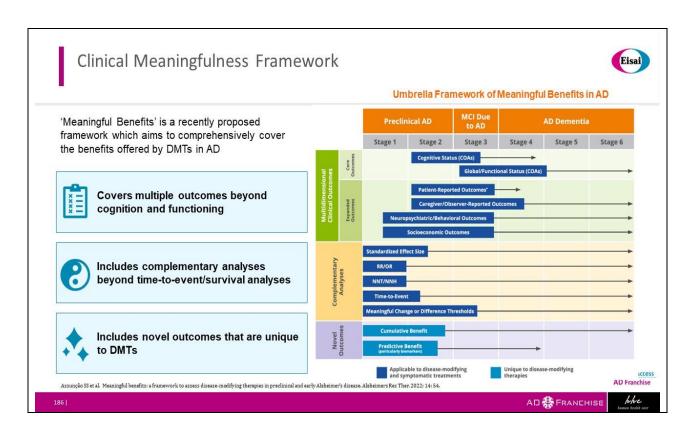
# Clarity AD: A Diverse Clinical Trial Population Baseline Comorbidities and Comedications

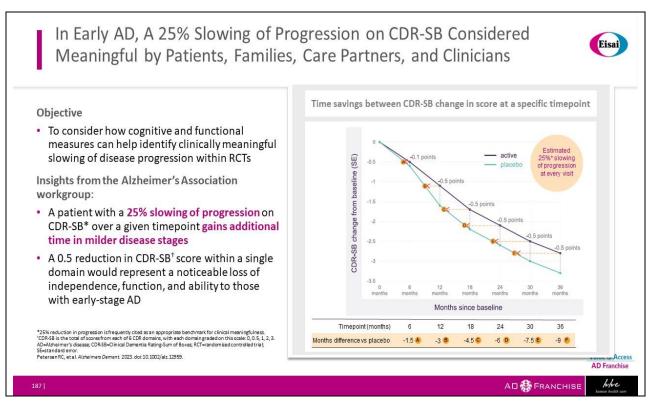


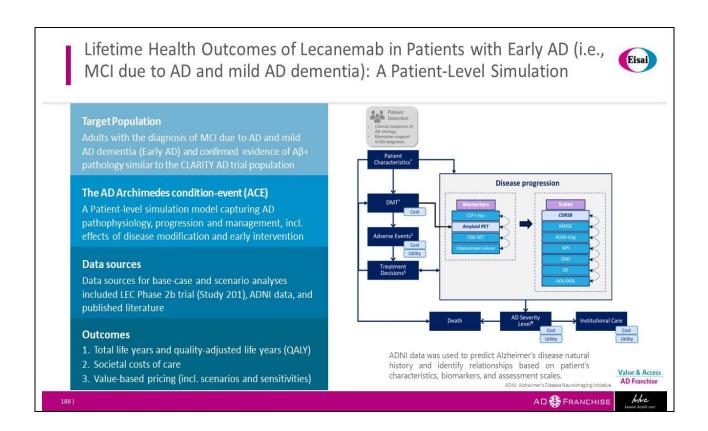
Characteristic	Combined Total N=1795	United States N=948
Comorbidities		
Hypertension, n (%)	993 (55.3%)	612 (64.6%)
Hyperlipidemia, n (%)	1085 (60.4%)	674 (71.1%)
Ischemic Heart Disease, n (%)	291 (16.2%)	189 (19.9%)
Diabetes, n (%)	271 (15.1%)	180 (19.0%)
Obesity, n (%)	298 (16.6%)	229 (24.2%)
At least 2 comorbidities above, n (%)	917 (51.1%)	604 (63.7%)
At least 3 comorbidities above, n (%)	441 (24.6%)	319 (33.6%)
At least 4 comorbidities above, n (%)	139 (7.7%)	111 (11.7%)
At least 5 comorbidities above, n (%)	25 (1.4%)	22 (2.3%)
Comedications		
Anticoagulants	80 (4.5%)	54 (5.7%)

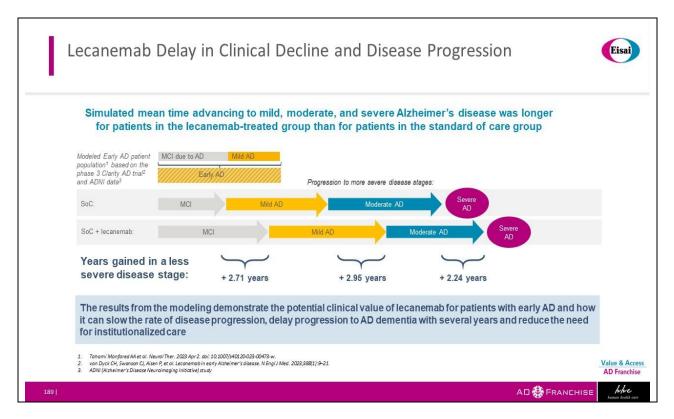


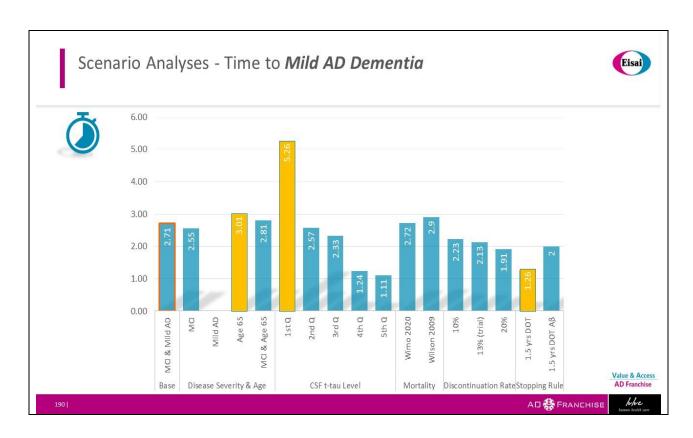


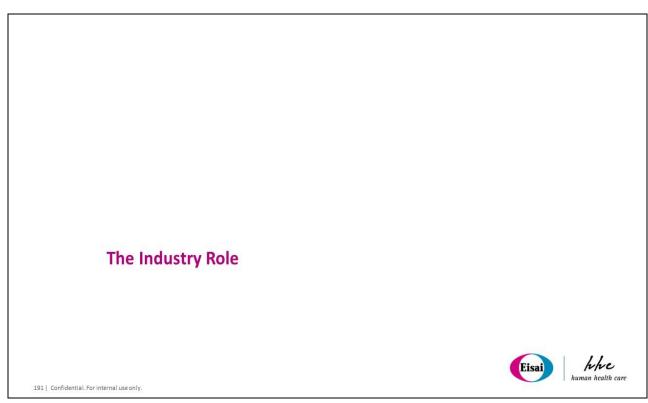




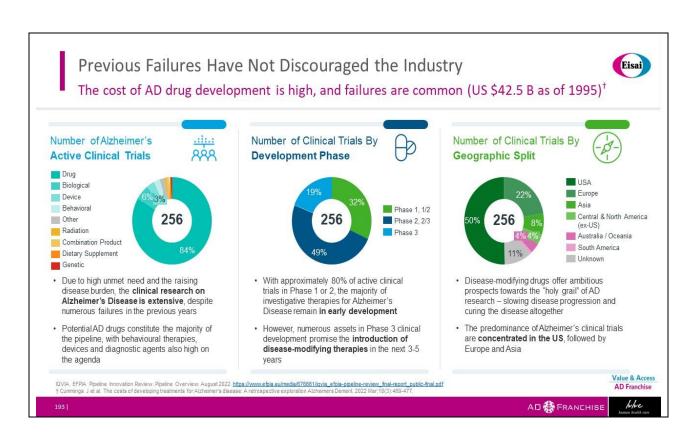


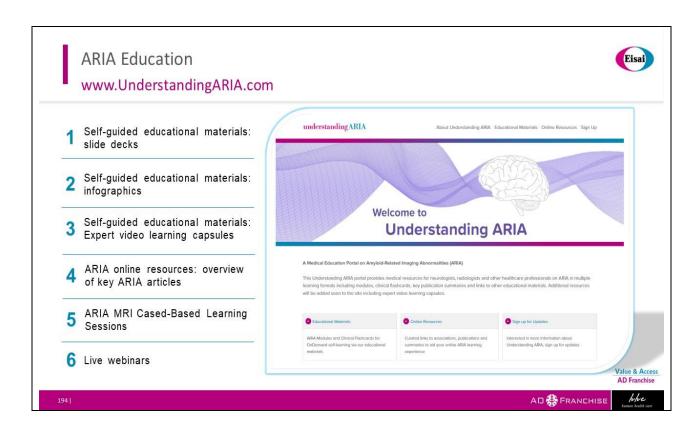


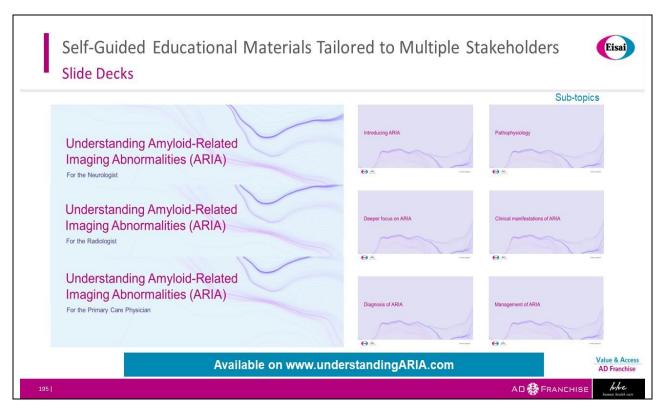




# Industry's Role in Translating Research into Clinical Impact 1 Drug Discovery and Development 2 Clinical Trials 7 Medical Education and Awareness 3 Regulatory Approval 8 Collaboration with Researchers 4 Manufacturing and Quality Control 9 Post-Marketing Studies 5 Pharmacovigilance 10 Patient Support Programs Value & Access. AD Franchise







# Public / Private Collaboration Needed to Support Provision of Care



Research predicts significant waiting lists if a new treatment became available for MCI due to AD patients in 2020, if access  $required \ biomarker\ confirmation.^{1.4}\ Many\ of\ these\ patients\ would\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment^{1.4}\ Many\ of\ these\ patients\ would\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment^{1.4}\ Many\ of\ these\ patients\ would\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment^{1.4}\ Many\ of\ these\ patients\ would\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment^{1.4}\ Many\ of\ these\ patients\ would\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment^{1.4}\ Many\ of\ these\ patients\ would\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ for\ access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ the access\ to\ treatment\ develop\ AD\ dementia\ while\ waiting\ the access\ to\ treatment\ develop\ the access\ the access\$ 



## Reconfigure healthcare system

- Diagnosis requires a multidisciplinary team, and a new treatment will require greater involvement of specialists in the patient care pathway2
- To support this, a reconfiguration of health services is required to synchronize disjointed health and social services2,3



### **Experienced and trained** personnel

- Patients with MCI due to AD and mild AD dementia will be eligible for a next generation treatment once launched4
- To support this, an increase in capacity within memory assessment services and in experienced HCPs is required to deliver care to patients<sup>2,4</sup>



- Assessment of eligibility for next generation treatments will involve the use of specialist imaging with access to radiolabeled tracers or CSF anaysis2,4
- Public health initiatives are required to achieve the goal of increasing early AD diagnosis and is recognized as a priority<sup>5,6</sup>

In recognition of the challenges facing AD diagnosis, the WHO and several national healthcare organizations have implemented policy initiatives to improve AD diagnosis and care7

1. Althelimer's Association, 2020 Althelmer's disease facts and figures. 2. Althelmer's Research UK. Thinking Differently. Preparing today to implement future dementia treatments. 2018. 3-The Economist. Assessing the socioeconomic Impact of AD in western Europe and Careda, 2017. 4-LiuJ. Let al. Assessing the Preparedness of the U.S. Health Care System Infrastructure for an Althelmer's Treatment RAND Corporation, 2017. 5-Althelmer's Association. A public health approach to Althelmer's Association of the Careda of th





