Supporting treatment decisions for patients with Alzheimer's disease using explainable artificial intelligence

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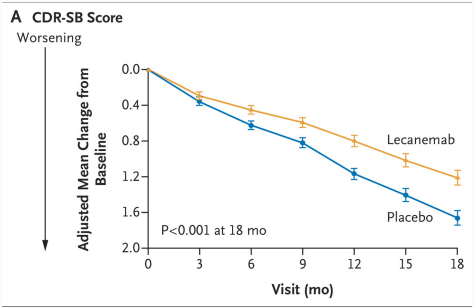
University of Oslo

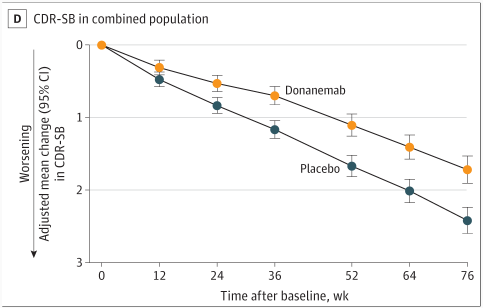
baba vision


LEQEMBI
(lecanemab-irmb)
Injection
500 mg/5 mL
(100 mg/mL)
LEQEMBI
(lecanemab-irmb)
Injection
500 mg/5 mL
(100 mg/mL)
European Medicines Agency reviews
and revises its opinion on Lecanemab

New treatment options for Alzheimer's disease



Van Dyck, C. H., Swanson, C. J., Aisen, P., Bateman, R. J., Chen, C., Gee, M., ... & Iwatsubo, T. (2023). Lecanemab in early Alzheimer's disease. *New England Journal of Medicine*, *388*(1), 9-21.



Sims, J. R., Zimmer, J. A., Evans, C. D., Lu, M., Ardayfio, P., Sparks, J., ... & Kaul, S. (2023). Donanemab in early symptomatic Alzheimer disease: the TRAILBLAZER-ALZ 2 randomized clinical trial. *JAMA*, *330*(6), 512-527.

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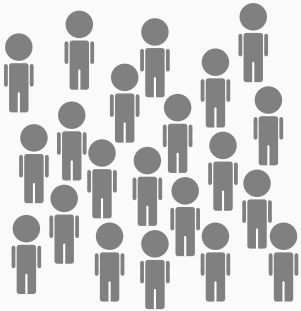

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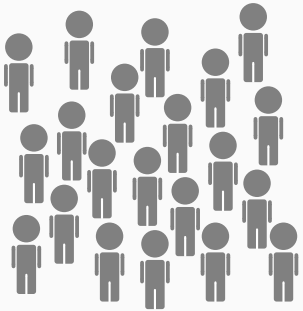

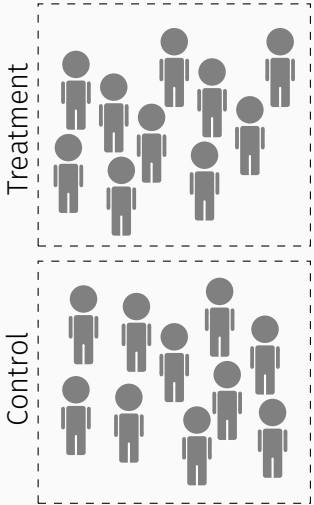

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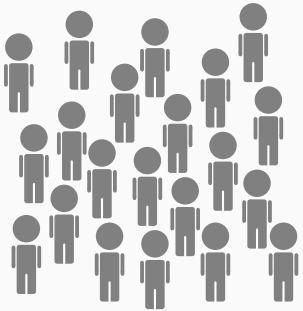

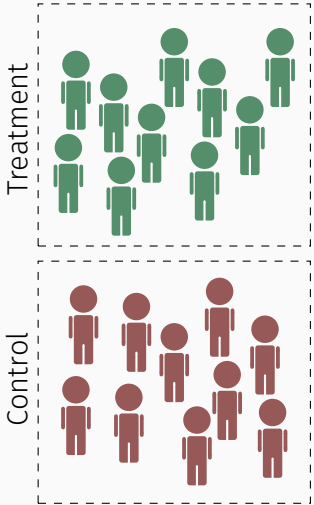

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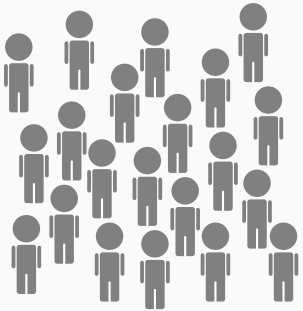

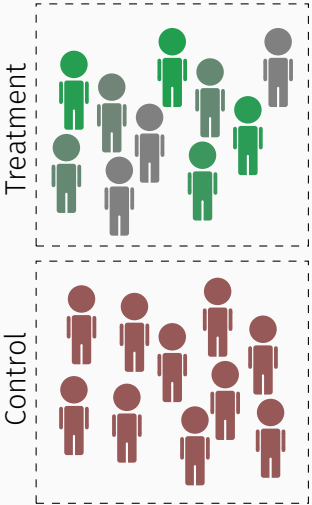

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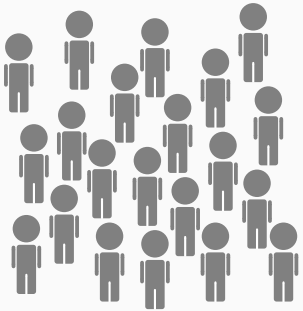

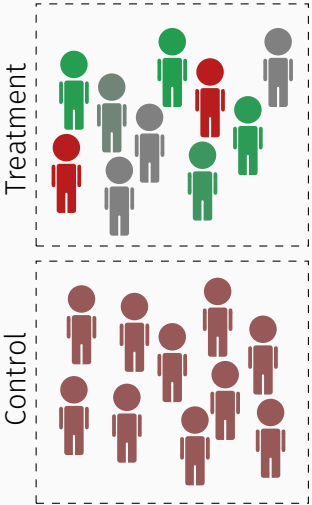

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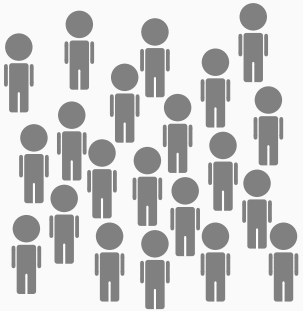

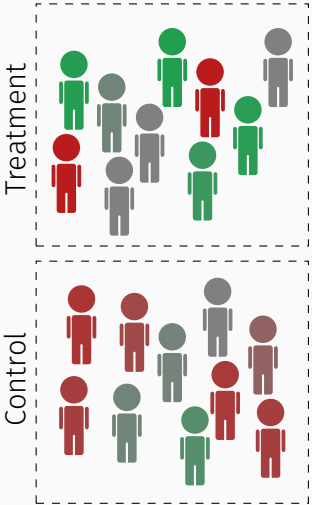

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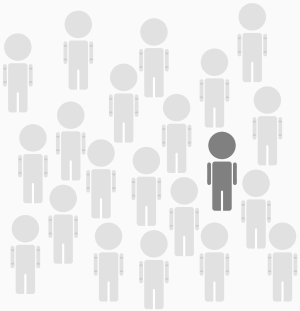

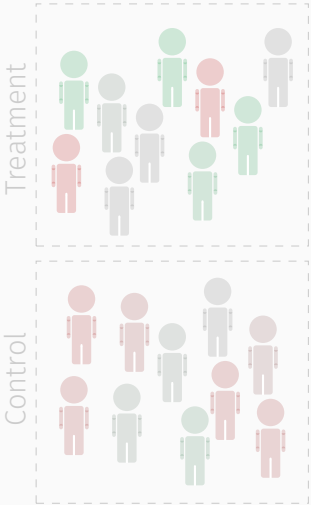

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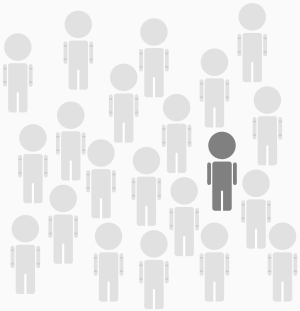

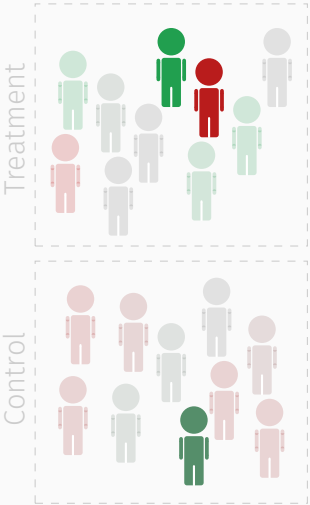

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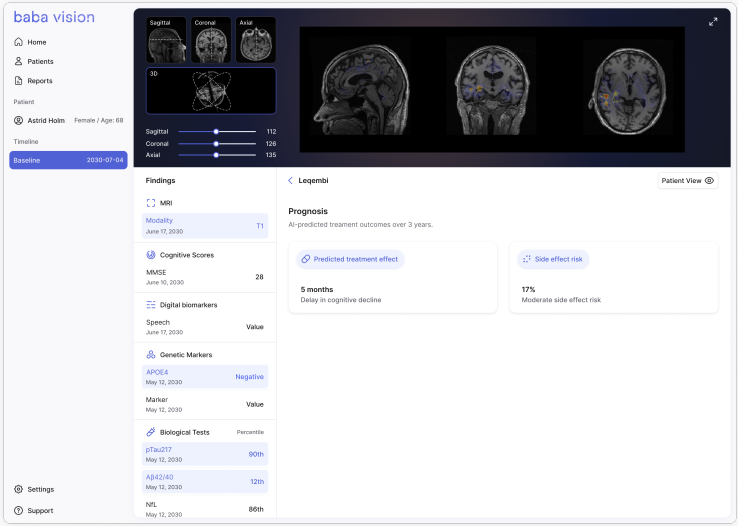


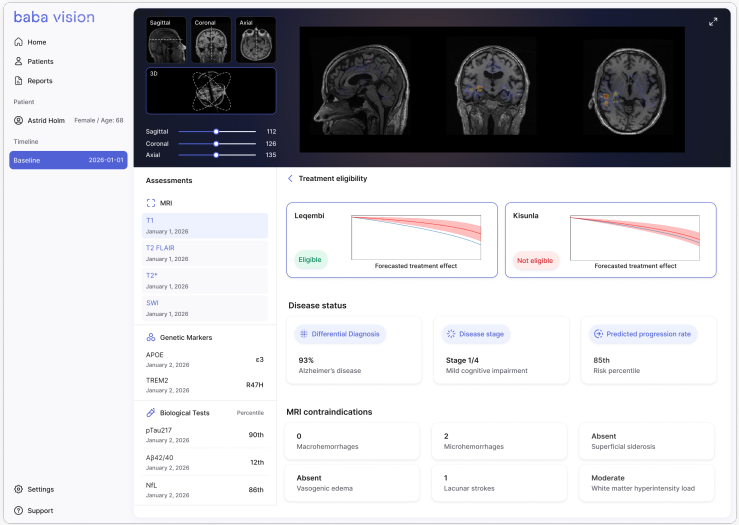
Treatment eligibility

Treatment eligibility

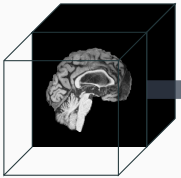
MRI-based contraindications

- A history of macrohemorrhages
- More than 4 microhemorrhages
- Evidence of superficial siderosis
- Evidence of brain vasogenic edema
- Significant white matter hyperintensities
- Multiple lacunar strokes
- Cerebral strokes involving a major vascular territory
- Central nervous system infection
- Evidence of cerebral contusion, encephalomalacia, brain aneurysms or other vascular malformations
- Brain tumors other than meningioma
- Arachnoid cysts
- Evidence of underlying cerebral amyloid angiopathy-related inflammation
- Evidence of Aβ-related angiitis

Treatment eligibility



Explainable artificial intelligence



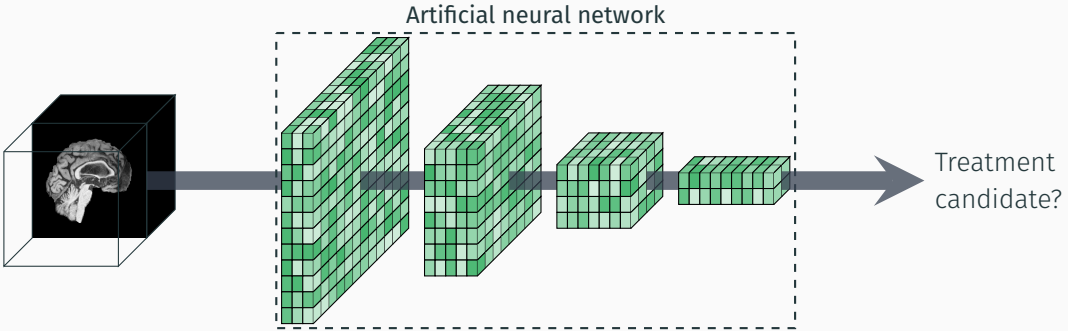
Feature extraction

MRI-derived features	
Presence of macrohemorrhages	No
Number of microhemorrhages	2
Presence of superficial siderosis	No
Presence of vasogenic edema	No
Number of lacunar strokes	1
White matter hyperintensity load	Moderate

Rule-based inference

Treatment candidate?

Explainable artificial intelligence



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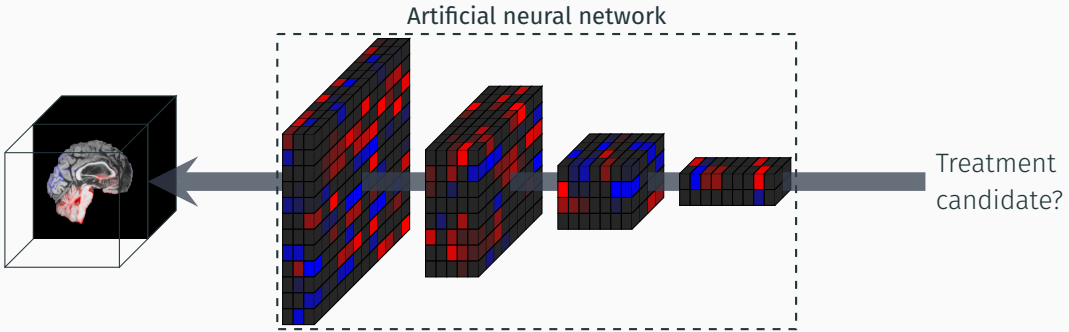

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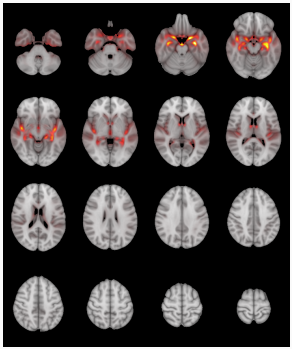

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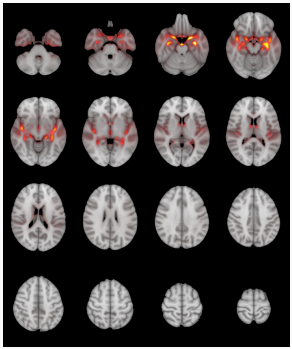
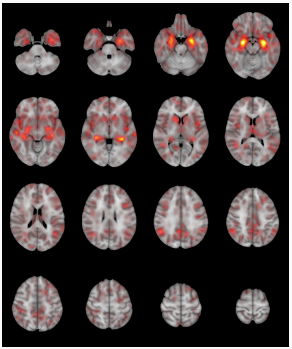


Human researchers



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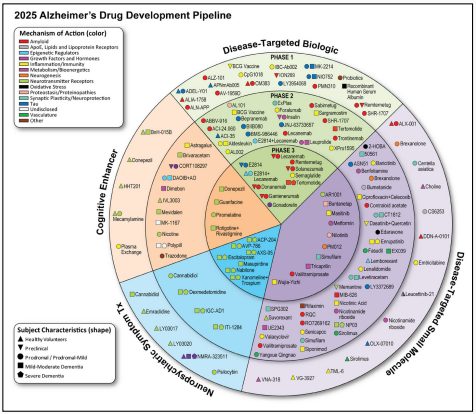
The future of Alzheimer's treatment



Cummings, J. L., Zhou, Y., Lee, G., Zhong, K., Fonseca, J., Leisgang-Osse, A. M., & Cheng, F. (2025). Alzheimer's disease drug development pipeline: 2025. Alzheimer's & Dementia: Translational Research & Clinical Interventions, 11(2), e70098.

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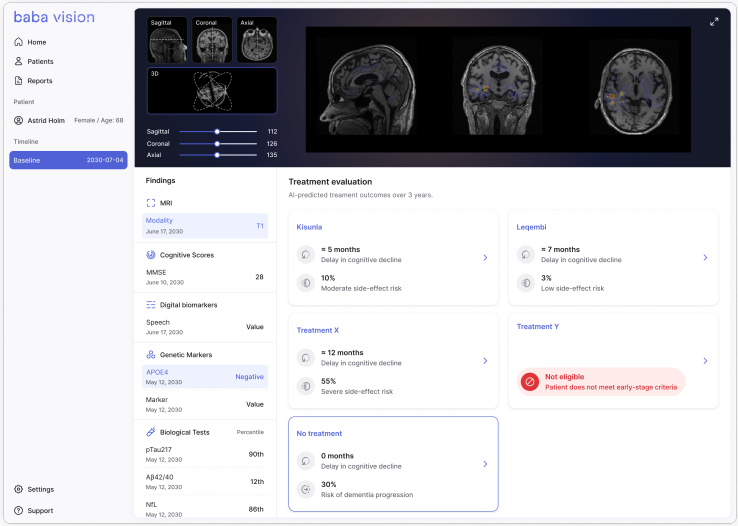
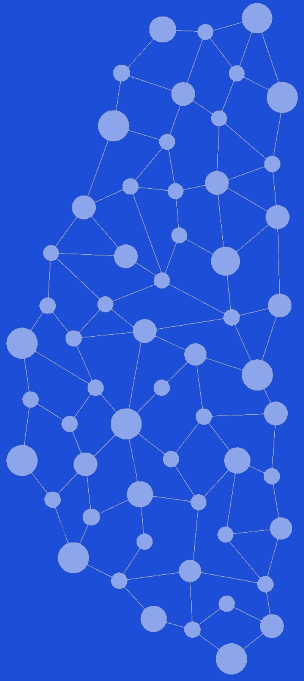


Thank you for your attention!

esten@baba-vision.com



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