

# **Background and objective**

Intravitreal anti-angiogenic medications have recently grabbed the attention of researchers to control the activity of neovascular wet agerelated macular degeneration (nAMD) To evaluate the cost-utility of faricimab compared to aflibercept for treating neovascular age-related macular degeneration (nAMD) in the United States from a payer's perspective.

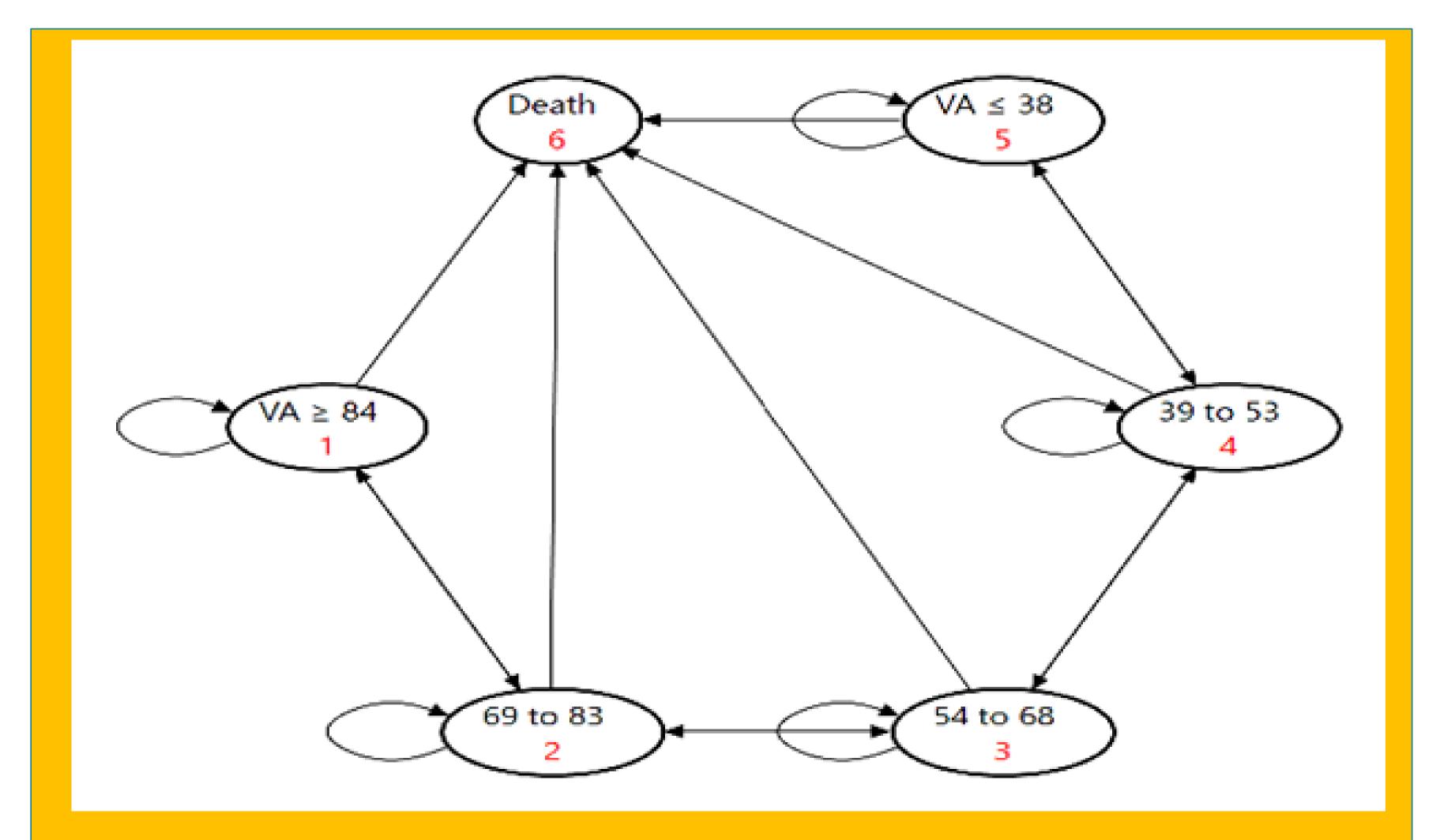
# Methods

A Markov model simulated disease progression in patients with nAMD over a five-year horizon. Health states were defined by best-corrected visual acuity (BCVA) levels, using data from the TENAYA and LUCERNE Phase III clinical trials. Costs included drug acquisition, administration, office visits, and monitoring, sourced from Medicare reimbursement rates and literature. Utilities were derived from published time trade-off values corresponding to BCVA levels. The model calculated incremental costeffectiveness ratios (ICERs) and net monetary benefits (NMBs). Deterministic and probabilistic sensitivity analyses assessed model robustness.

# Reasults

Faricimab was the dominant strategy, with lower total costs (\$49,388 vs. \$56,798 for aflibercept) and higher effectiveness (3.39 vs. 3.29 qualityadjusted life years [QALYs]), resulting in an ICER of -\$73,164 per QALY gained. Faricimab also demonstrated a higher NMB (\$289,372 vs. \$271,832). It required fewer injections over five years (18.08 vs. 27.33 for aflibercept). Sensitivity analyses confirmed faricimab's cost-effectiveness across various parameters, with acquisition costs and utility values being the most influential factors.

# Cost-Utility Analysis of Faricimab Versus Aflibercept in Treating Neovascular Age-Related Macular Degeneration (nAMD) in the United States



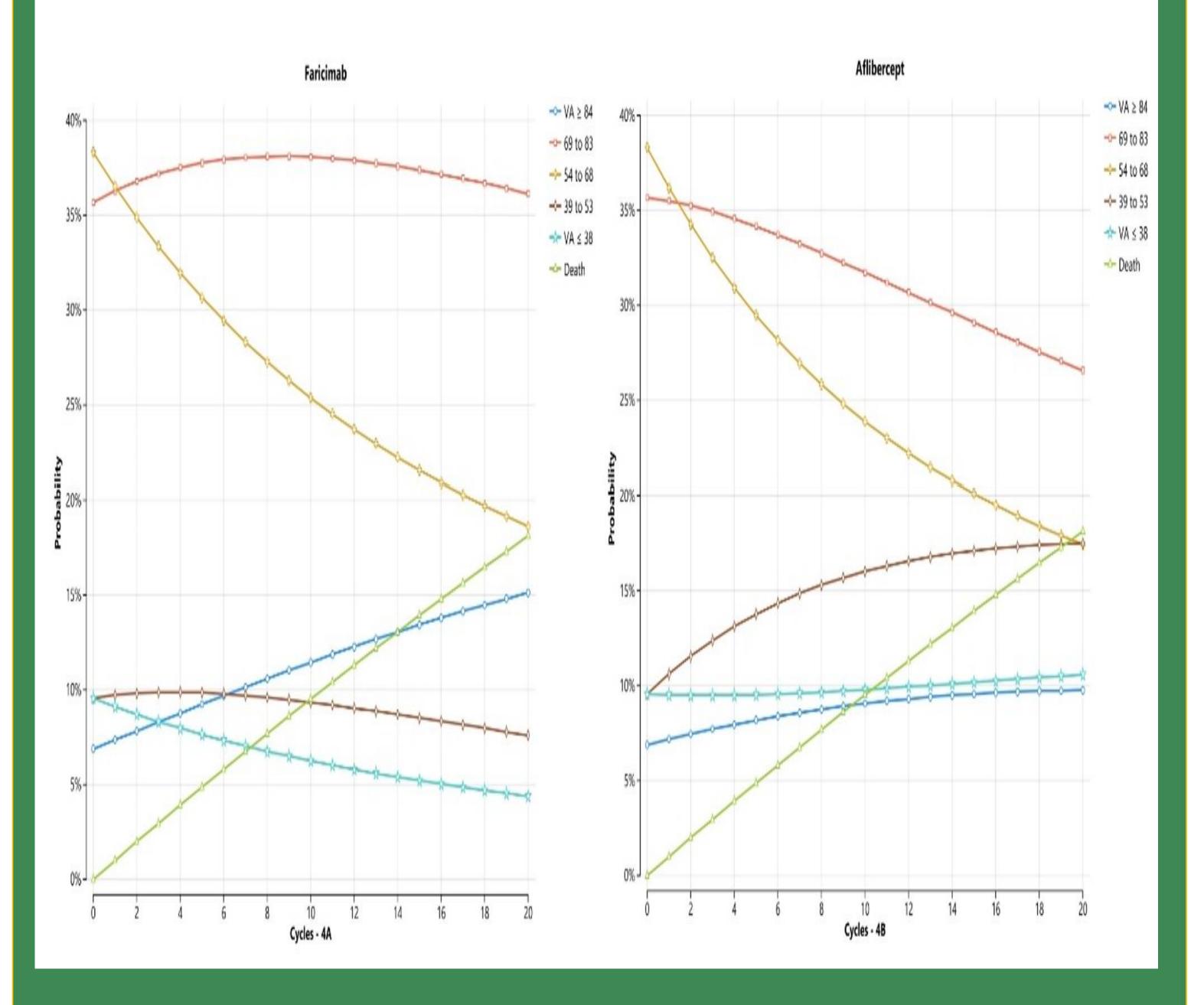


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### Figure 1. Markov model with the five states defined by visual acuity in the worse-seeing eye and an additional death state. Arrows indicate allowed transitions.

### Tornado Diagram: ICER Faricimab vs. Aflibercept (WTP: 100000.00)

Aquestion cost of Aflibercept 2 mg per dose (2103.05 to 1261.82)
Aquestion cost of faricimab 6 mg per dose (1594.85 to 2658.08)
Utlity of VA state 69-83 (0.645 to 1.075)
The number of Aflibercept injections recived every cycle or every 3 month (1.65 to 1.35)
Utlity of VA state 39-53 (0.8375 to 0.5025)
The number of Faricimab injections recived every cycle or every 3 month (0.89334 to 1.0918
Utlity of VA state VA more or = 84 (0.7125 to 1.1875)
Utlity of VA state less or = $38 (0.675 \text{ to } 0.405)$
Prob of Fraricimab from VA 54-68 to 69-83 (0.0373 to 0.0621)
Prob of aflibercept VA 54-68 to 69-83 (0.0581 to 0.0349)
Prob of Aflibercept VA 69-83 to 54-68 (0.026 to 0.0434)
Utlity of VA state 54-68 (0.5625 to 0.9375)
Prob of aflibercept VA 54-68 to 39-53 (0.026 to 0.0434)
Prob of fraricimab (69-83) to (VA > or = 84) (0.013 to 0.0216)
Prob of aflibercept (69-83) to (VA > or = 84) (0.021 to 0.0126)
Prob of fraricimab VA 39-53 to 54-68 (0.041 to 0.0686)
Prob of fraricimab (VA< or equal 38) to ( 39-53) (0.041 to 0.0683)
Prob of fraricimab VA 69-83 to 54-68 (0.014 to 0.0084) WTP: 150000.00
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Faricimab offers superior economic value over aflibercept for nAMD treatment in the U.S., achieving comparable or improved clinical outcomes with fewer injections and lower costs. These findings support the adoption of faricimab as a cost-effective treatment option.



Figure 3A, 3B. Cohort probability over 20 cycles for Faricimab and Aflibercept

# Conclusion

# References

Haig, J., Barbeau, M., & Ferreira, A. (2016). Cost-effectiveness of ranibizumab in the treatment of visual impairment due to diabetic macular edema. Journal of Medical Economics, 19(7), 663-671. Heier, J. S., Brown, D. M., Chong, V., Korobelnik, J.-F., Kaiser, P. K., Nguyen, Q. D., Kirchhof, B., Ho, A., Ogura, Y., & Yancopoulos, G. D. (2012). Intravitreal aflibercept (VEGF trap-eye) in wet age-related

macular degeneration. Ophthalmology, 119(12), 2537-2548