

Introduction

- Faricimab is a bispecific antibody targeting ANG-2 and VEGF for the treatment of neovascular age-related macular degeneration (nAMD).
- In the TENAYA and LUCERNE trials (2-year long Phase III trials),¹ patients treated with individualized dosing of faricimab followed by a Treat & Extend (T&E) regime required less frequent treatments compared to Aflibercept given every eight weeks (Q8W) and achieved similar vision gains.
- However, clinical practice in nAMD in Canada is typically characterized by T&E regimens. This research aims to assess the cost-effectiveness of faricimab vs. anti-VEGF treatments applied in such regimens.²

Methods

- A Markov cohort model based on the NICE guideline review³ was developed in Excel to estimate bilateral visual acuity changes linked to quality of life, injection frequency and associated costs from a Canadian payer as well as a societal perspective.
- Transition probabilities and injection frequency were informed by the TENAYA and LUCERNE trials for faricimab and a network-meta analysis for comparators⁴. Deterministic and probabilistic sensitivity analyses were performed for costs and key model parameters.
- Time horizon was 25 years to reflect a life time horizon.
- Utility for visual acuity states was modelled using Czoski-Murray et al. (2009)⁵ including administration and related disutilities.
- Drug prices were based on publicly available list prices in Canada.

Results

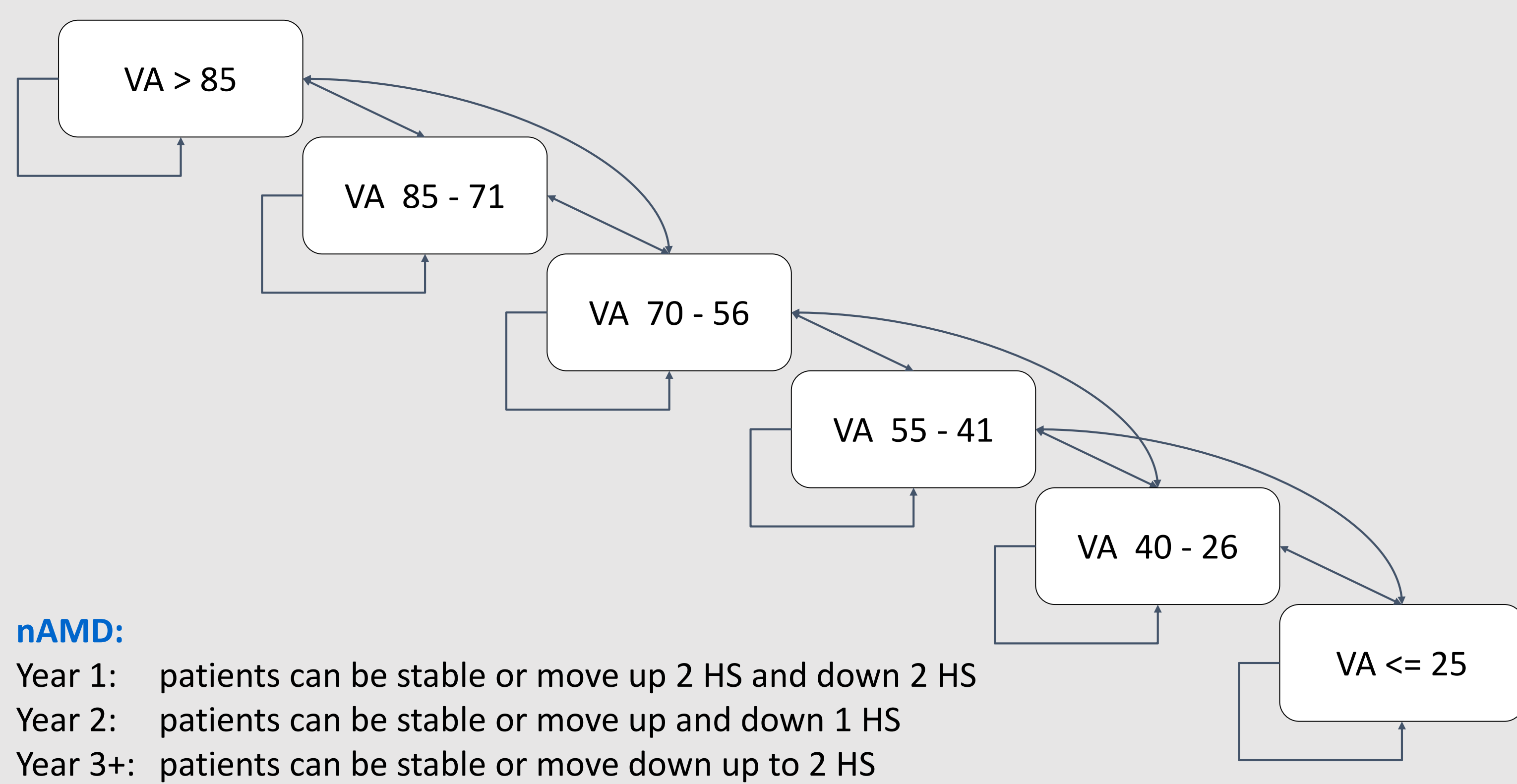
- In the deterministic base case, Faricimab reduced the number of injections by 37%, 21%, 28% and 46% vs. ranibizumab, aflibercept, brolocizumab and bevacizumab respectively using T&E.
- From a payer perspective, faricimab generated lower costs vs. ranibizumab, aflibercept and brolocizumab of CAD 76,496, 29,117 and 38,235 as well as higher costs of CAD 11,987 vs. bevacizumab. From a societal perspective, faricimab was cost saving vs. all anti-VEGF treatments including bevacizumab.
- Faricimab was associated with a mean QALY gain of 0.03, 0.05, 0.06 and 0.05 accordingly, driven by vision gains and disutilities.
- The ICUR vs. bevacizumab was 226,373 while the ICER per injection avoided was 222. Sensitivity analyses were consistent with the base case.

Conclusions

- The results indicate that faricimab dominates ranibizumab, aflibercept and brolocizumab administered in T&E regimes that are typically used in clinical practice.
- From a societal perspective, faricimab is cost saving and thus dominates bevacizumab by cutting injection visits and related costs in half. Savings were mostly driven by a reduced caregiver burden.
- Faricimab offers an innovative option reducing the treatment burden for patients and caregivers, leading to more efficient use of healthcare resources and long term cost savings.
- The results also indicate that societal costs such as informal care represent a substantial economic burden and should be considered when evaluating novel therapeutic options in ophthalmology.

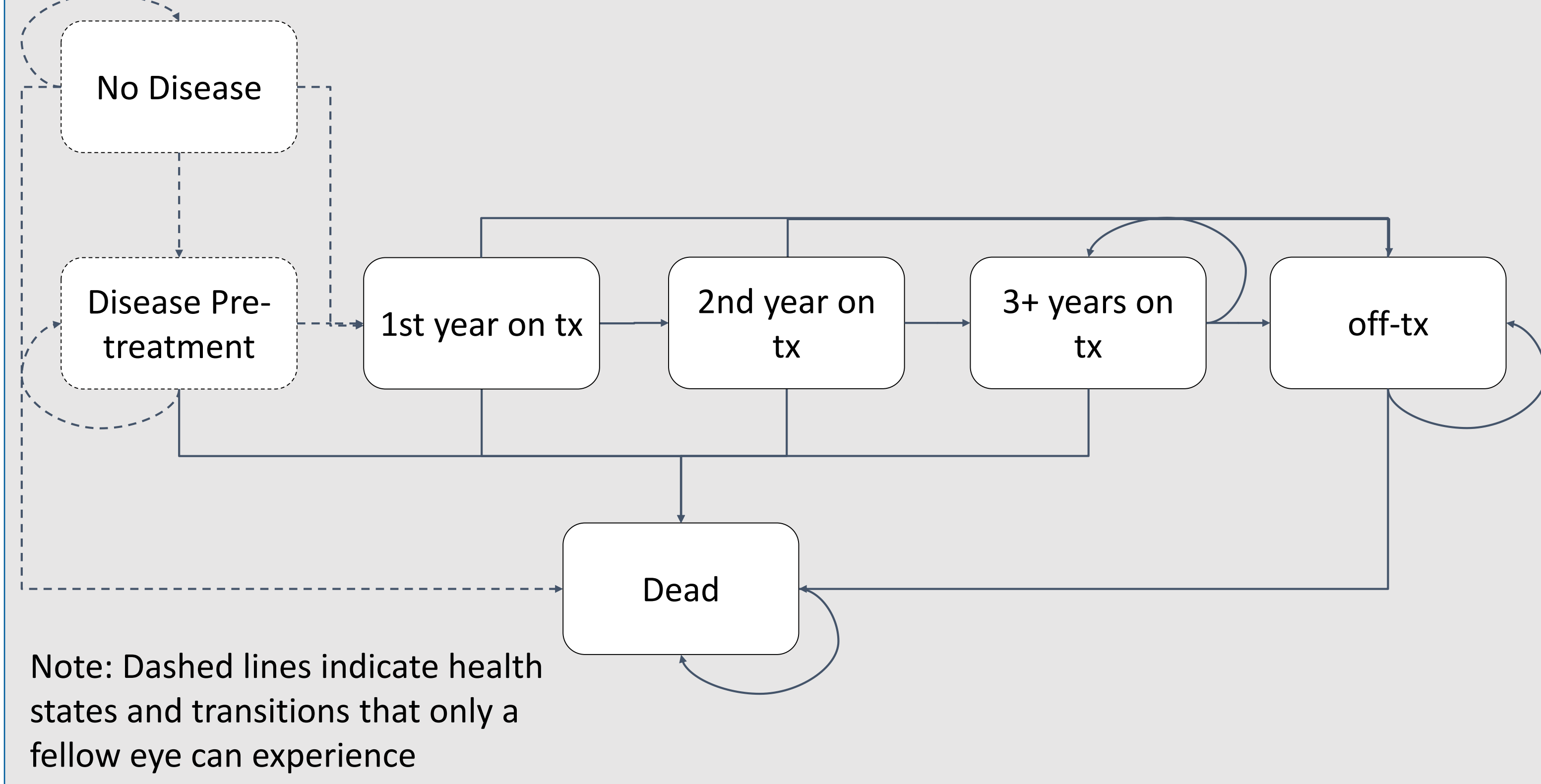
1. Model Structure (Vision Related Health States)

Visual acuity (VA) related health states and transitions for both eyes

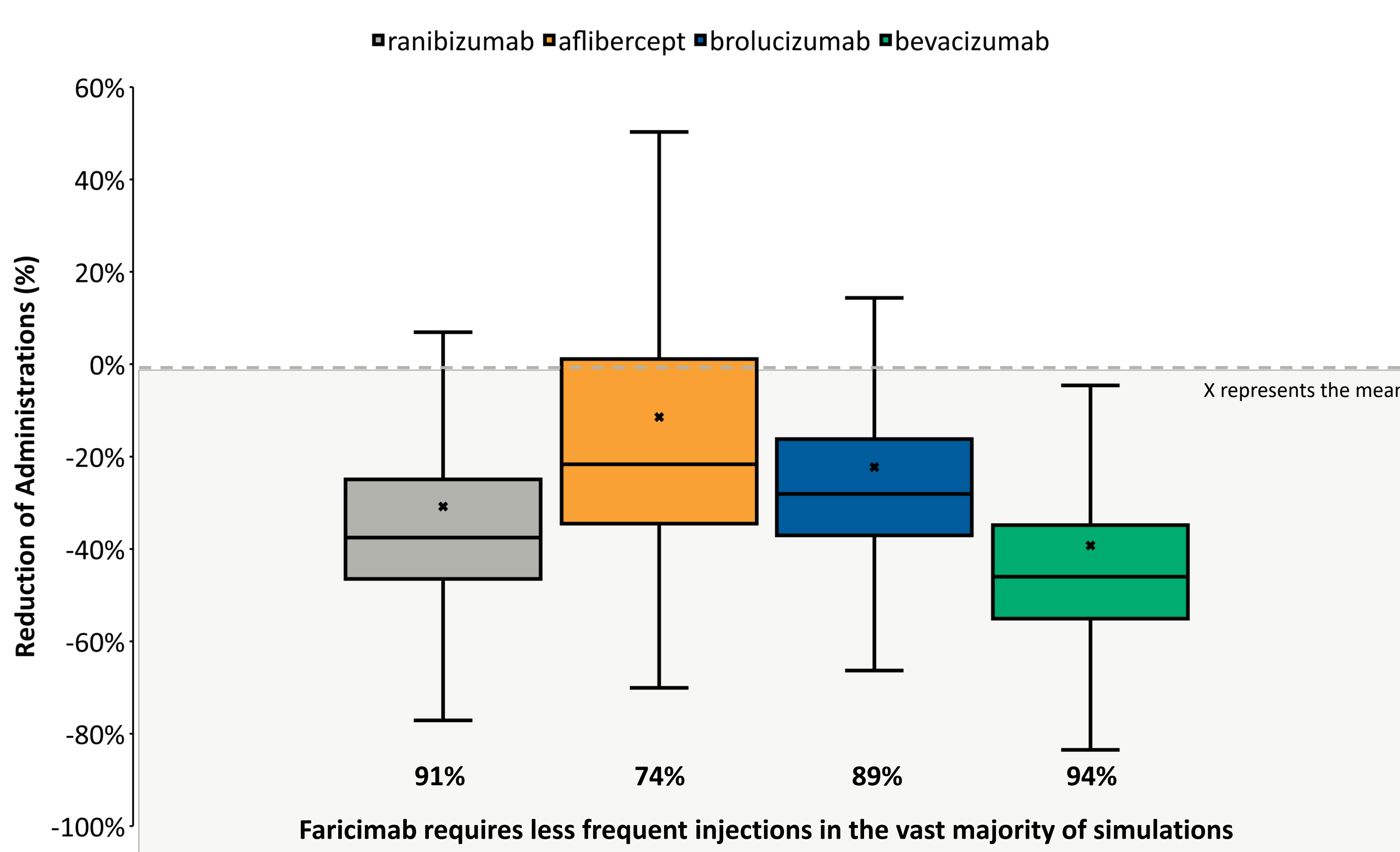


2. Model Structure (Treatment Related Health States)

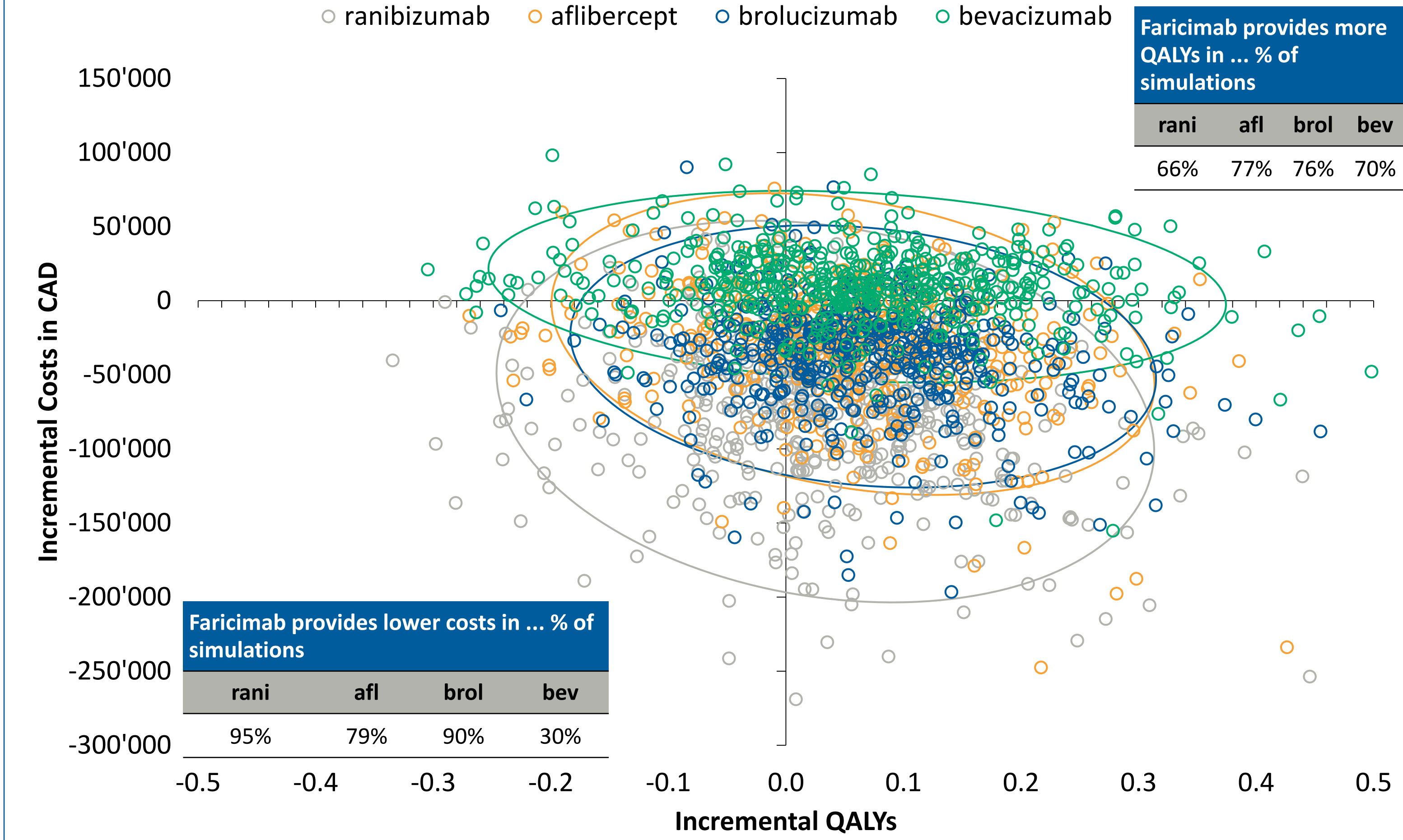
Treatment related health states and transitions for both eyes



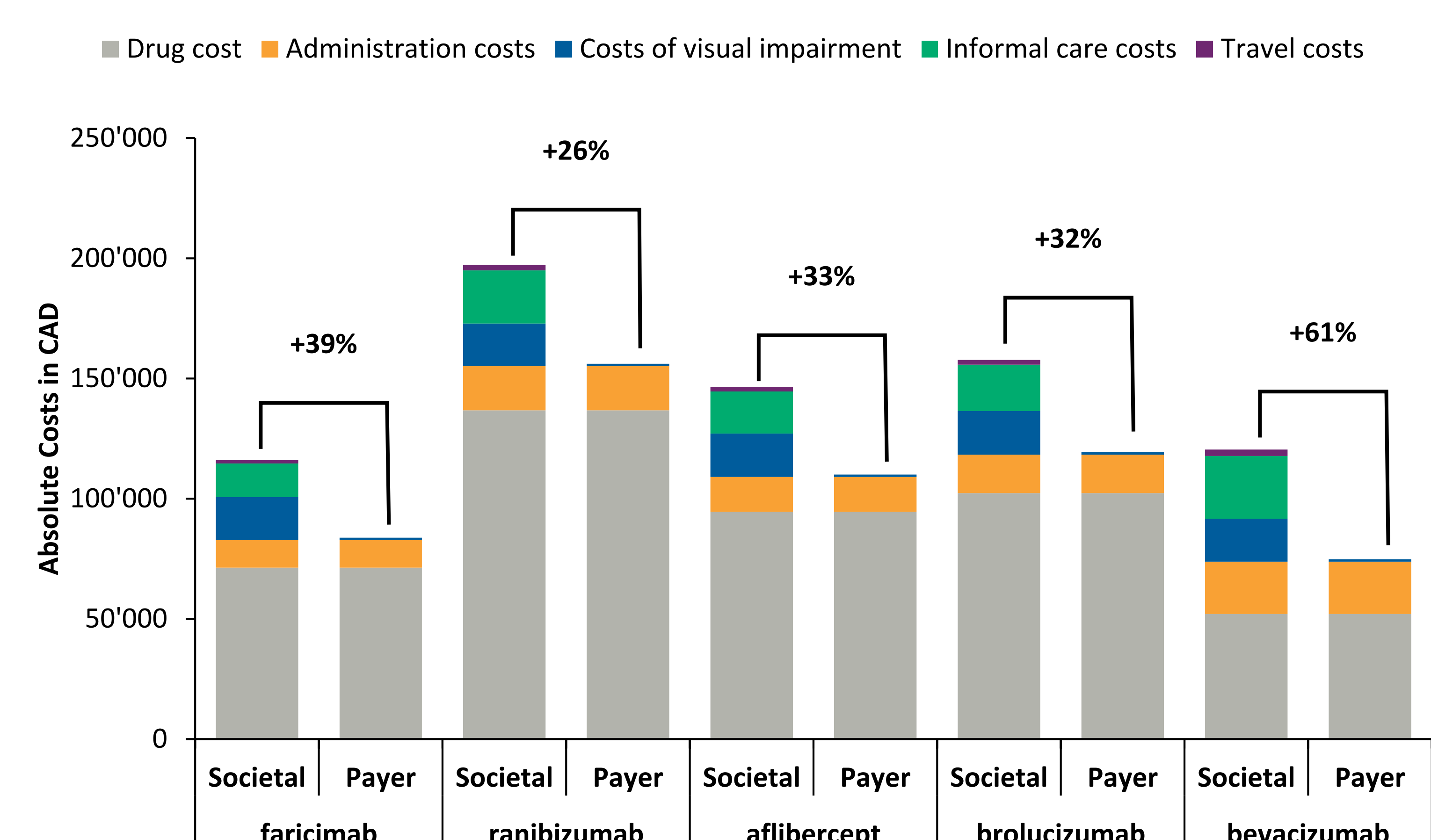
3. Mean Reduction of Administrations of Faricimab vs. Treat & Extend Regimens



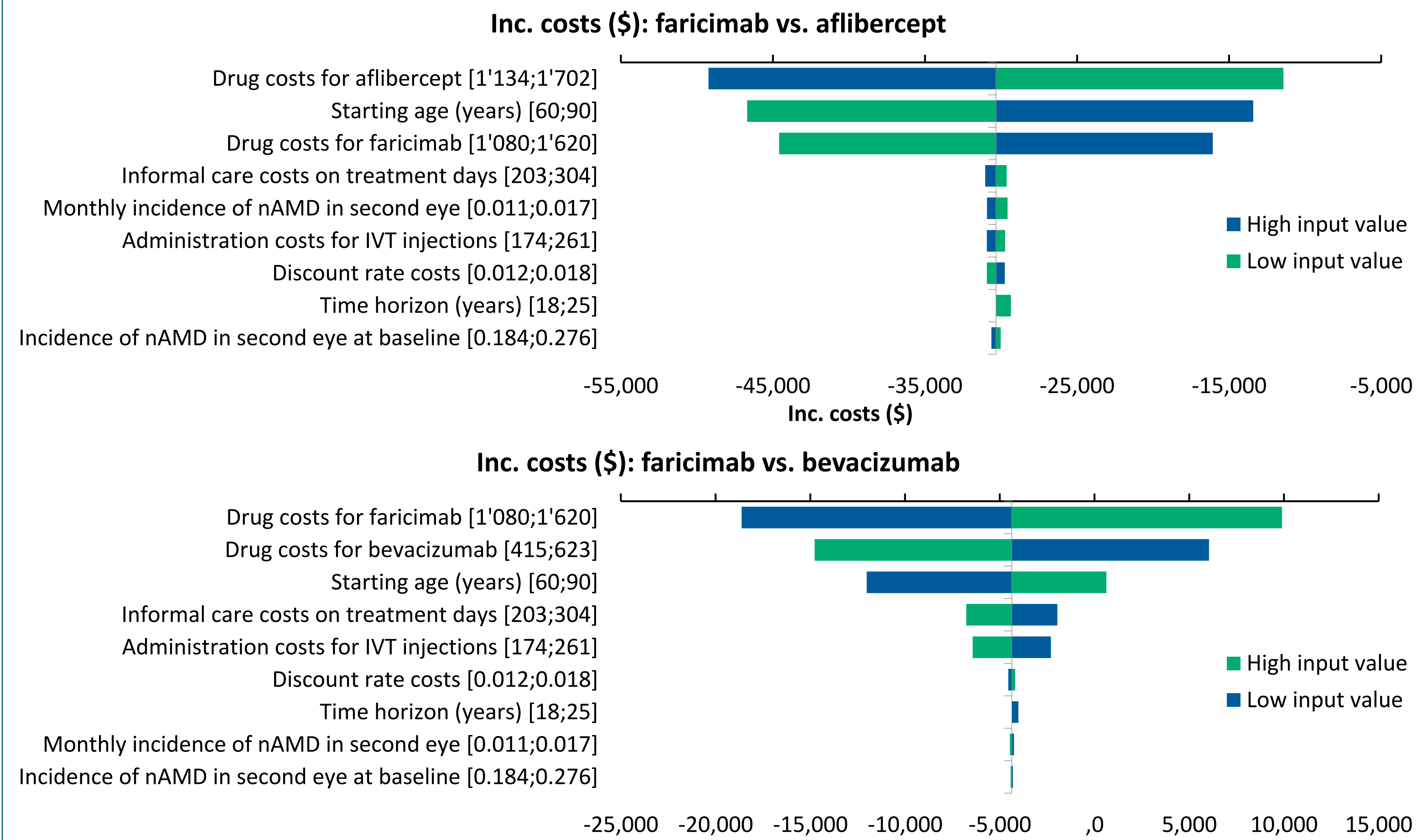
4. Incremental Cost-Effectiveness Plane for Faricimab vs. Treat & Extend Regimes – Payer Perspective



5. Breakdown of Deterministic Total Costs – Societal vs. Payer Perspective



6. Deterministic Sensitivity Analysis – Societal Perspective



References

- Efficacy, durability, and safety of intravitreal faricimab up to every 16 weeks for neovascular age-related macular degeneration (TENAYA and LUCERNE): two randomised, double-masked, phase 3, non-inferiority trials; Heier, Jeffrey S Abbey, Ashkan et al.; The Lancet, Volume 399, Issue 10326, 729 – 740; DOI: 10.1016/S0140-6736(22)00010-1.
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- Czoski-Murray et al.; Valuing condition-specific health states using simulation contact lenses. Value Health. 2009 Jul-Aug;12(5):793-9. DOI: 10.1111/j.1524-4733.2009.00527.x.

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