

Real-World Anti-VEGF Treatment Utilization and Vision Outcomes in Neovascular Age-Related Macular Degeneration: Analysis of the Vestrum Database

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Poster #0382

Purpose

To evaluate how anti-VEGF therapy continuity impacts vision outcomes in nAMD patients

Conclusions

- In this large real-world analysis, ~40% of treatment naive nAMD eyes were non-persistent with anti-VEGF within the first year & the incidence continued to rise
- Eyes that stayed on treatment achieved better long-term visual outcomes than non-persistent eyes, however, both cohorts experience gradual vision loss
- Delayed treatment initiation was associated with poorer vision outcomes and greater likelihood of discontinuation
- These findings highlight challenges with adherence to frequent anti-VEGF therapy suggesting undertreatment & early non-persistence may contribute to suboptimal long-term vision outcomes and underscore the need for more durable, longer-lasting treatment approaches for nAMD.

Limitations

As a retrospective analysis, findings are subject to incomplete data capture, loss to follow-up over time, and limited insights into treatment patterns (ie, reasons for missed visits & discontinuation) which may impact interpretation of long-term outcomes.

Study Disclosure
Funding was provided by Ocular Therapeutix for the study

- References**
- Ciulla TA, et al. *Ophthalmol Retina*. 2018;2(7):645-653.
 - Holekamp NM, et al. *Am J Ophthalmol*. 2014;157(4):825-833.e1.

Abbreviations
BCVA, best-corrected visual acuity; CI, confidence interval; DME, diabetic macular edema; DR, diabetic retinopathy; ETRDS, Early Treatment Diabetic Retinopathy Study; GA, geographic atrophy; nAMD, neovascular age-related macular degeneration; mCNV, myopic choroidal neovascularization; RVO, retinal vein occlusion; SD, standard deviation; VA, visual acuity; VEGF, vascular endothelial growth factor

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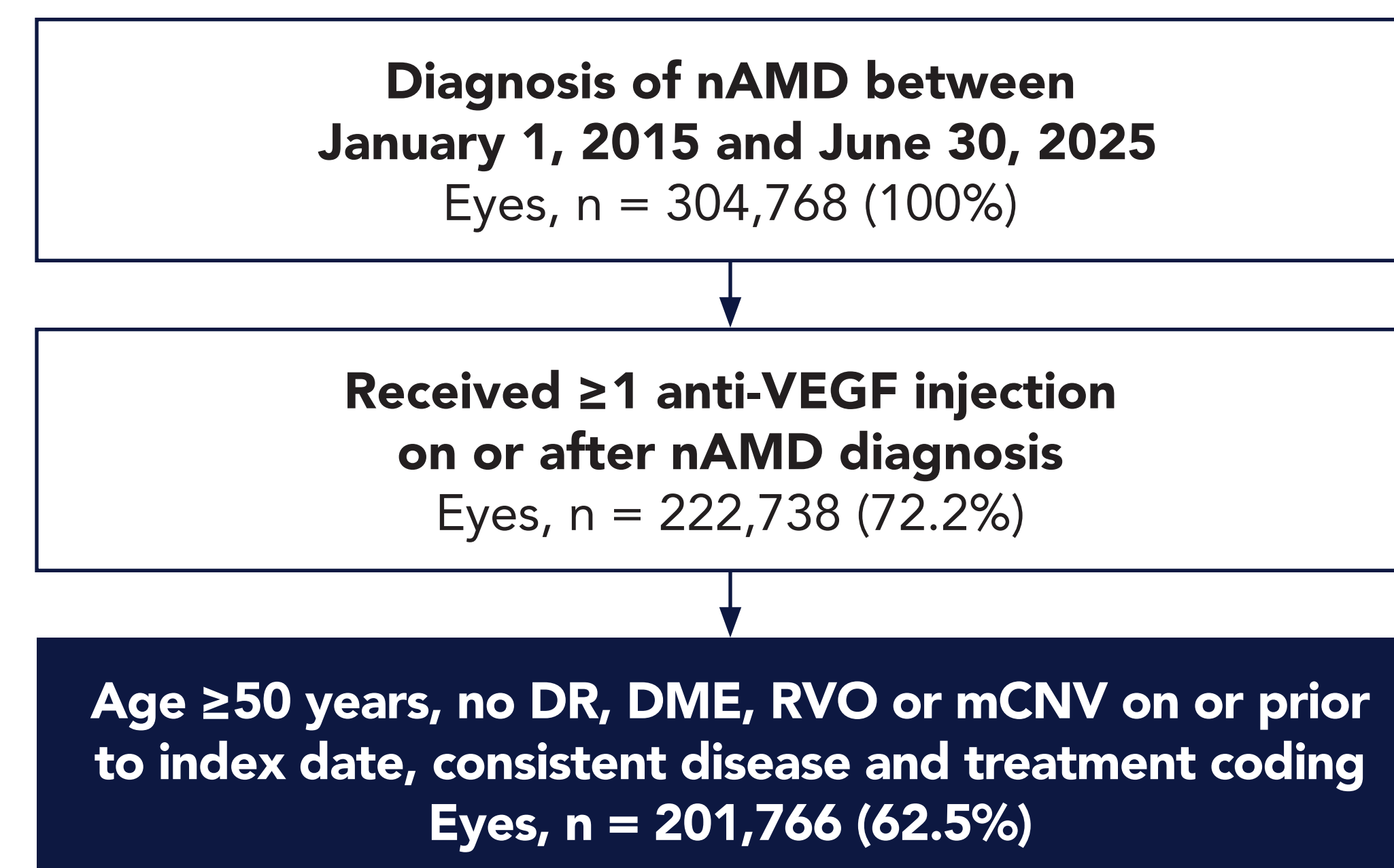
Background

- Translating clinical trial efficacy and safety of anti-VEGF for nAMD into real-world practice is challenged by high treatment burden associated with frequent intravitreal injections and regular monitoring^{1,2}
- While short-term real-world treatment patterns are well-documented, there is a need to better understand the long-term incidence of non-persistence and its impact on visual trajectory over time

Methods

- Retrospective analysis of the Vestrum Health database
- Patients aged ≥ 50 years with nAMD treated with intravitreal anti-VEGF injection(s) were included
- Anti-VEGF treatment non-persistence was defined as no injection for >180 days after the previous injection

Cohort Attrition



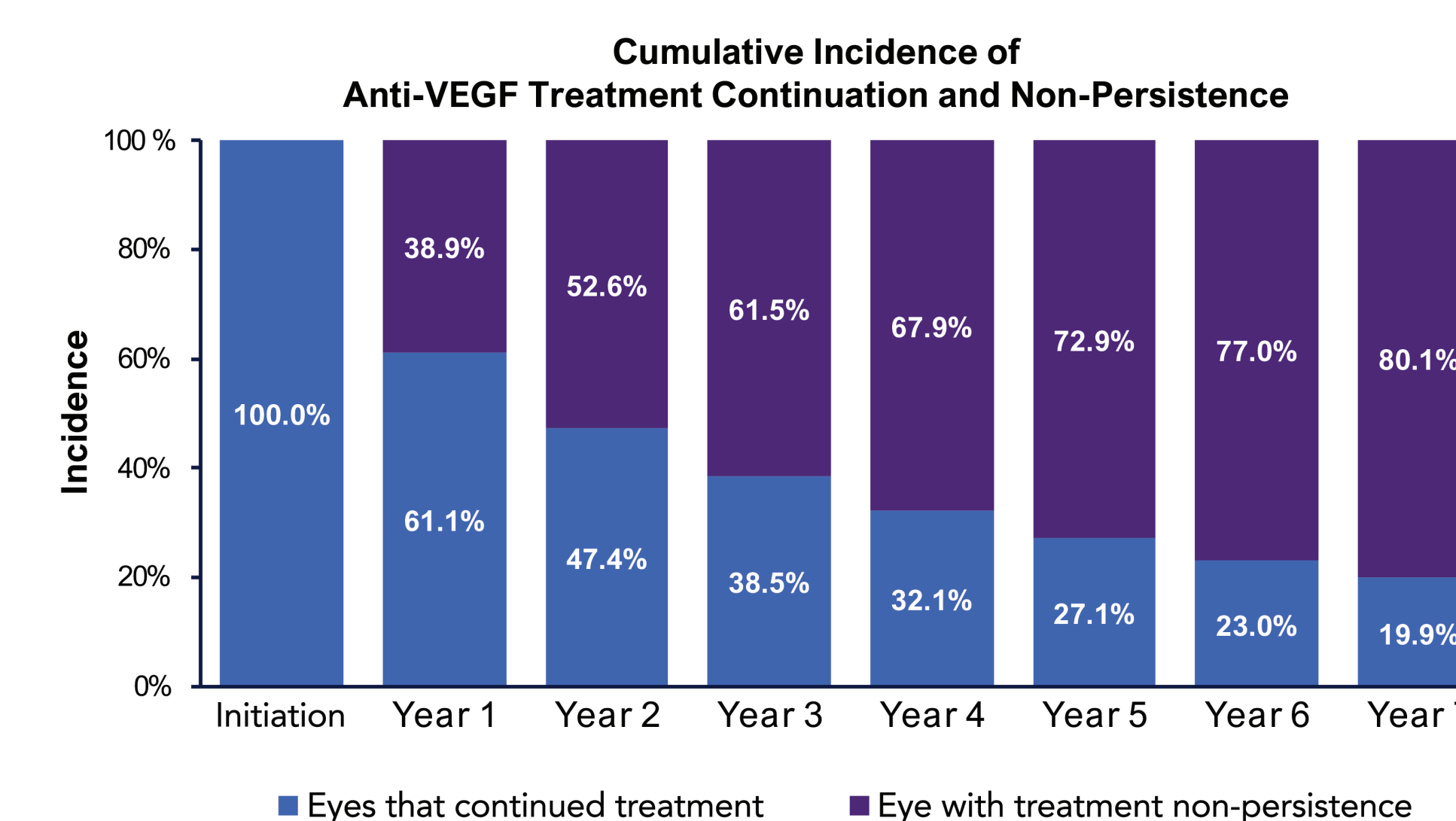
Baseline Demographics and Characteristics

| | N |
|--|-----------------|
| Total study eyes | 201,766 |
| Total study patients | 158,727 |
| Gender | |
| Female | 125,623 (62.3%) |
| Male | 72,558 (36.0%) |
| Other/unknown | 3,585 (1.8%) |
| Mean (SD) age, years | 80.4 (8.7) |
| Mean (SD) time from nAMD diagnosis to first treatment, days | 18 (73) |
| Presence of fibrosis in study eye | 23,439 (11.6%) |
| Presence of atrophy in study eye | 43,568 (21.6%) |
| Mean (SD) visual acuity, ETRDS letters | 53.7 (23.8) |
| Approximate Snellen equivalent | ~20/85 |
| Mean (SD) central retinal thickness, microns | 334 (129) |
| nAMD in fellow eye | |
| Present, treated | 34,171 (16.9%) |
| Present, not treated | 48,216 (23.9%) |
| Not present | 119,379 (59.2%) |

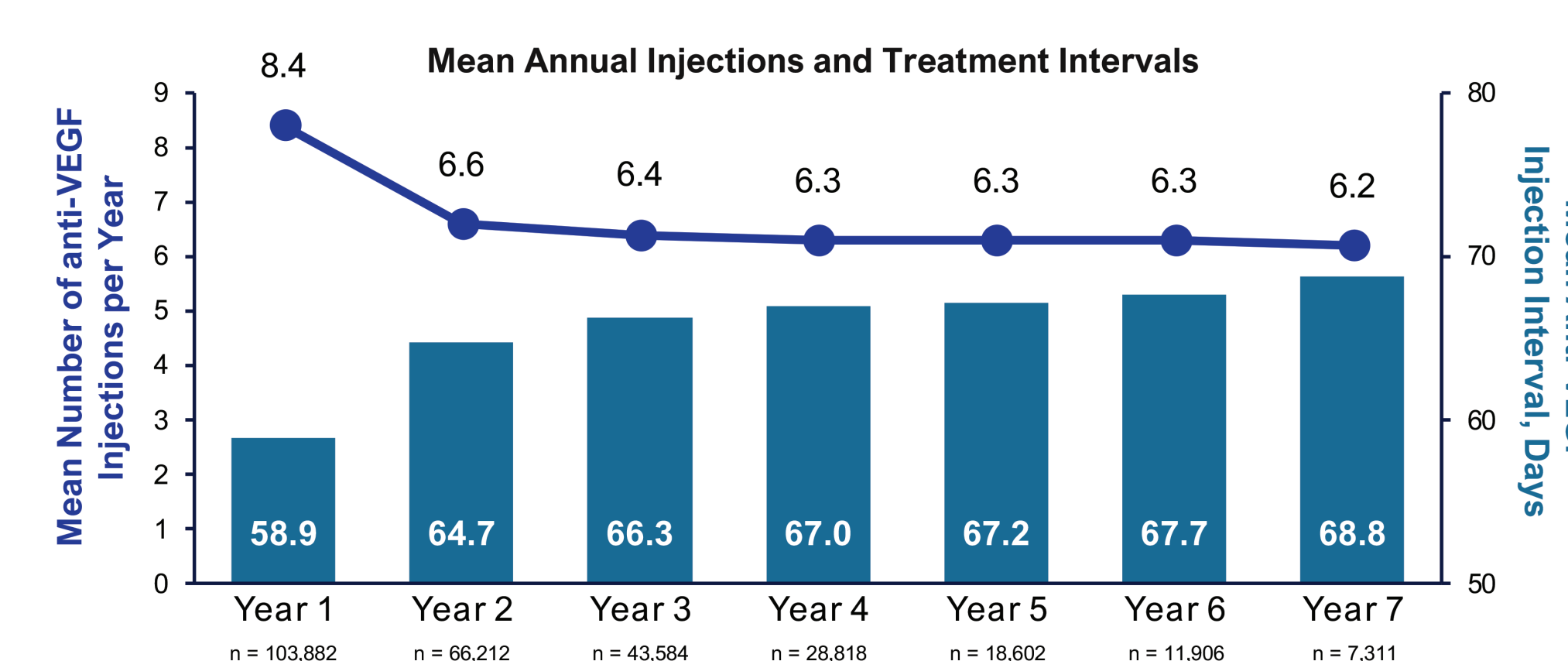
Results

1. High Real-World Attrition Limits Long-Term Treatment Continuity

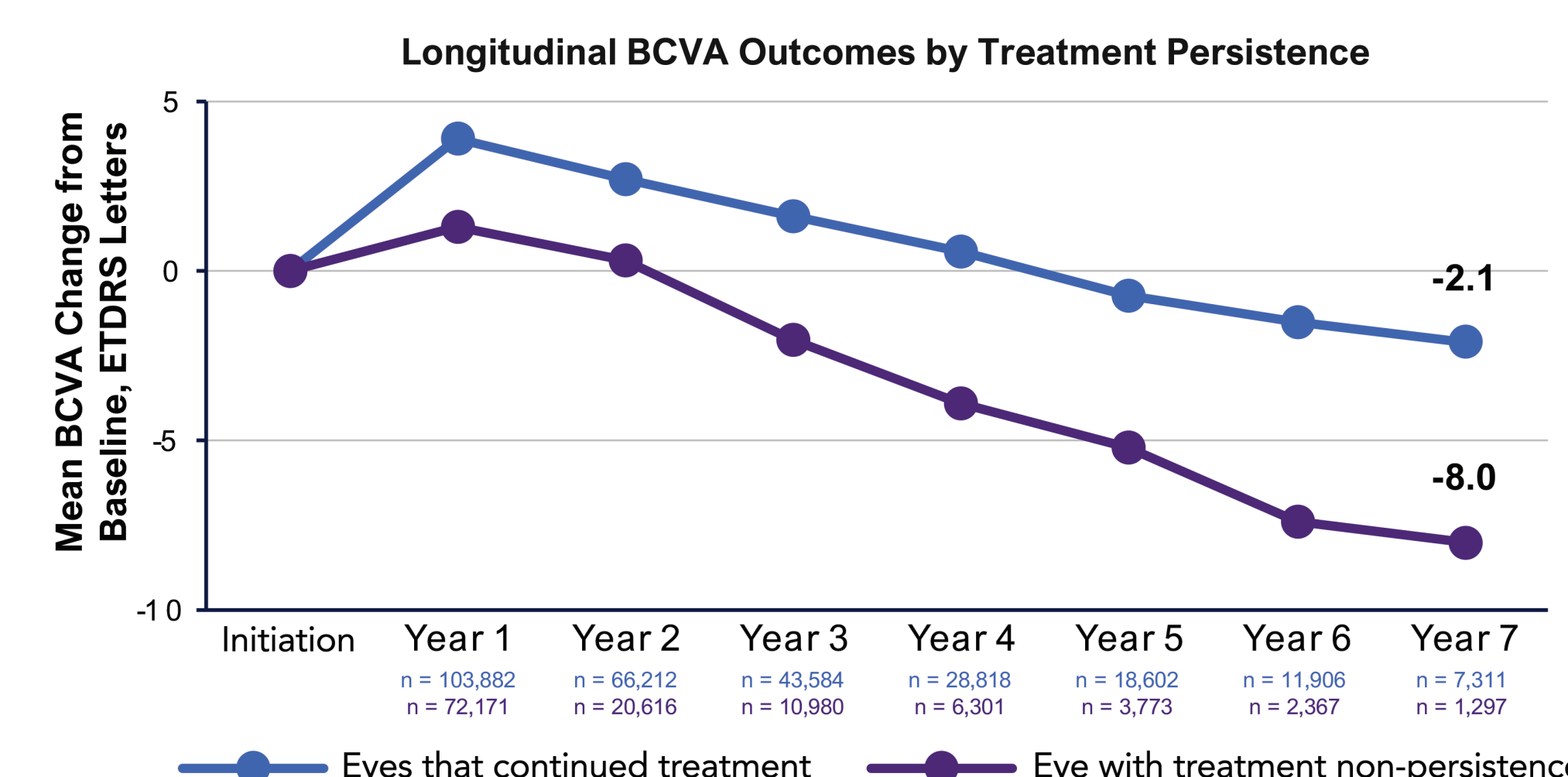
- Steepest drop-off in years 1-2 and continued decline through years 3-7



2. Annual Treatment Intensity Gradually Declines Over Time

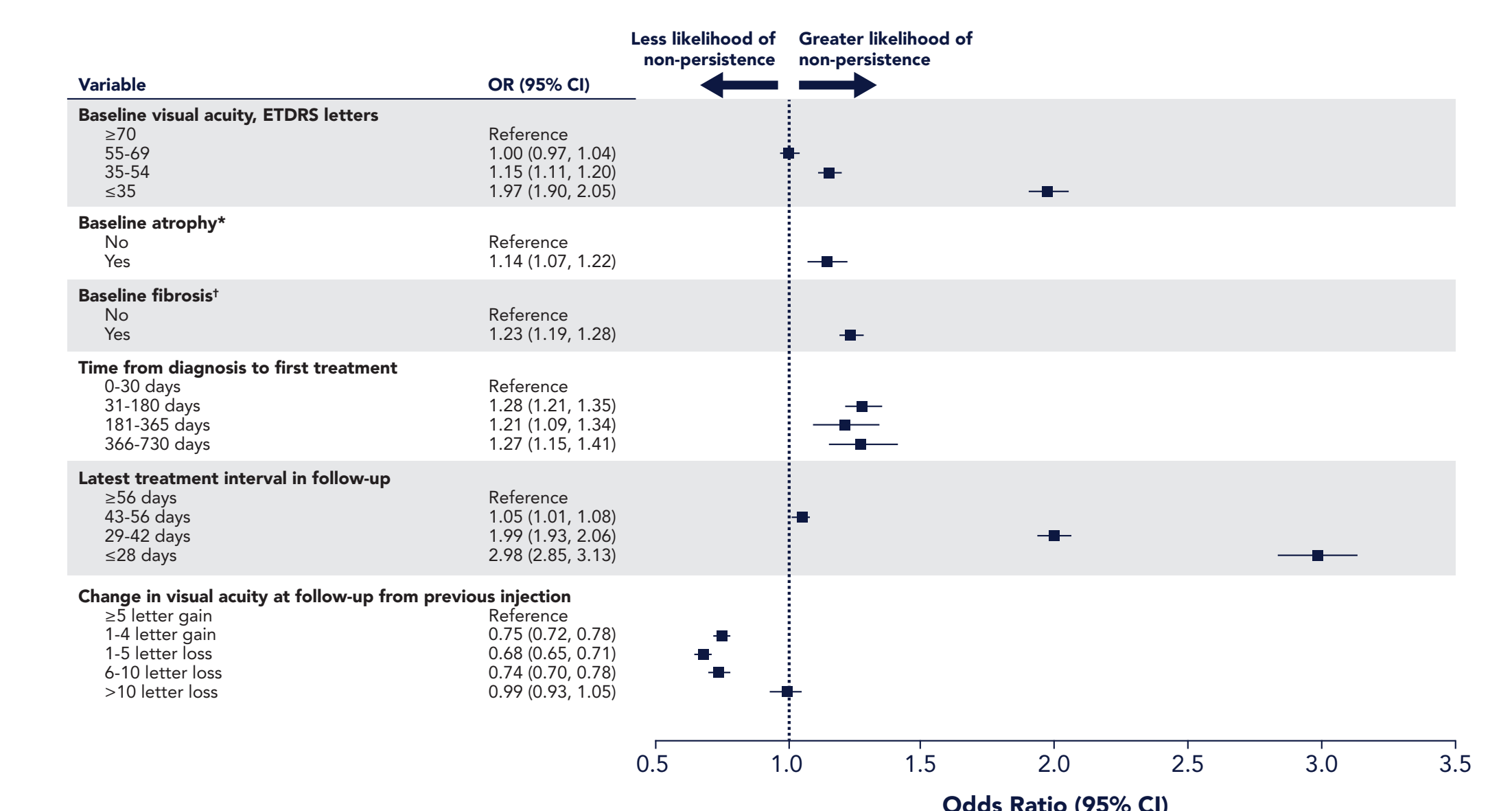


3. Early Vision Gains are Not Sustained Long Term



4. Factors Associated with Treatment Non-Persistence within the First Year

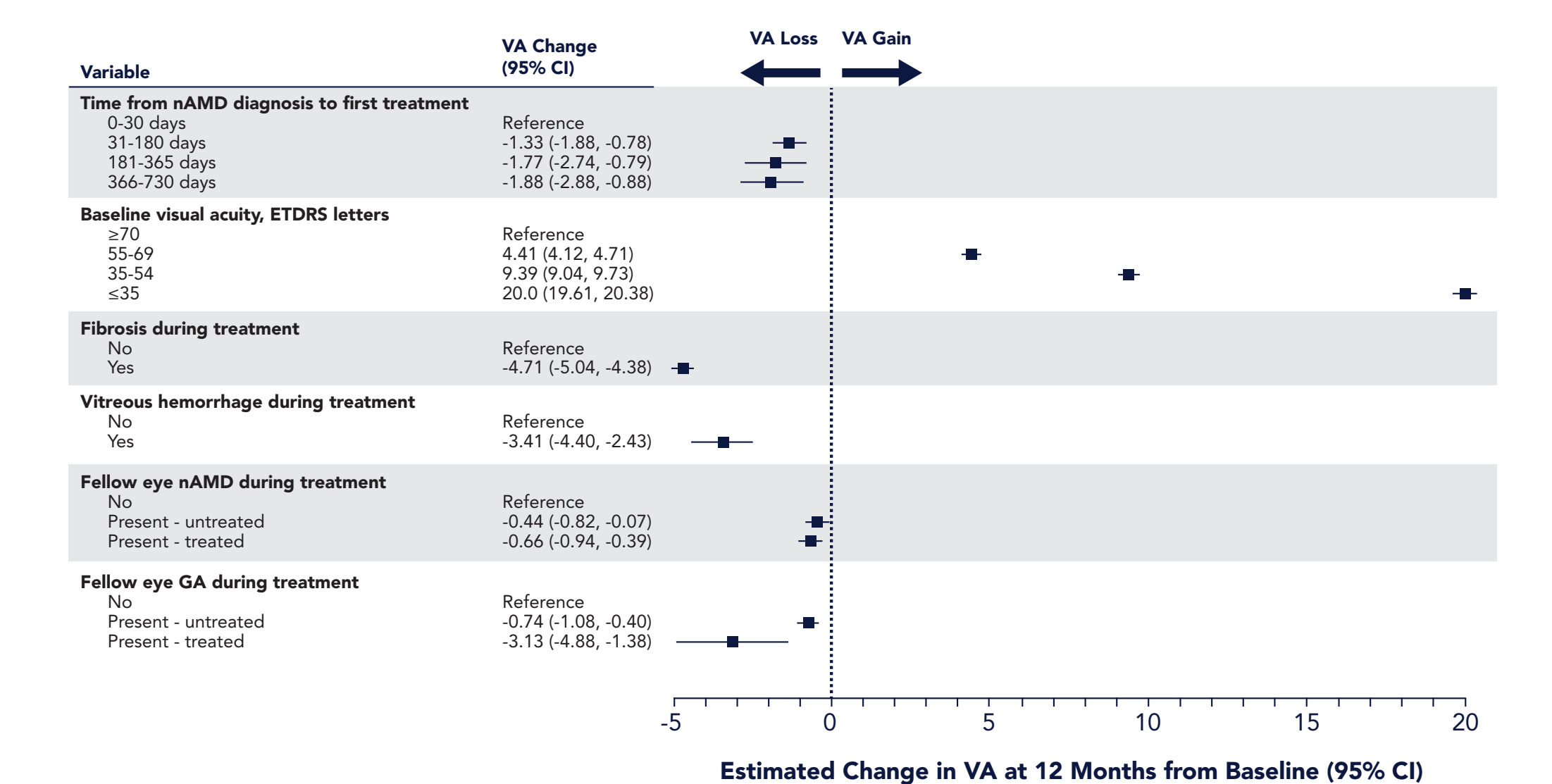
- Poor baseline VA, atrophy or fibrosis at baseline, delayed treatment initiation >30 days, and high treatment frequency in follow-up were associated with greater likelihood of anti-VEGF treatment non-persistence
- Moderate VA gains or losses from previous injection were associated with less likelihood of non-persistence



Multivariate logistic regression models to understand factors associated with anti-VEGF treatment discontinuation.
* Presence of atrophy was identified using relevant ICD 10 codes available in the diagnoses field or by analyzing texts available in the exam findings field.
† Presence of fibrosis was identified by analyzing text available in the exam findings field.

5. Factors Associated with Vision Outcomes at 12 Months

- Worse baseline VA was associated with higher VA gain
- Delayed treatment initiation >30 days and presence of fibrosis or vitreous hemorrhage in the study eye were associated with decreased VA gain
- nAMD or GA in the fellow eye were associated with decreased VA gain



Multivariate linear regression models to understand factors associated with VA gain.