



# Evaluation of Geographic Atrophy (GA) Secondary to AMD in Real-World Clinical Practice

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## Analysis of the AAO IRIS Registry

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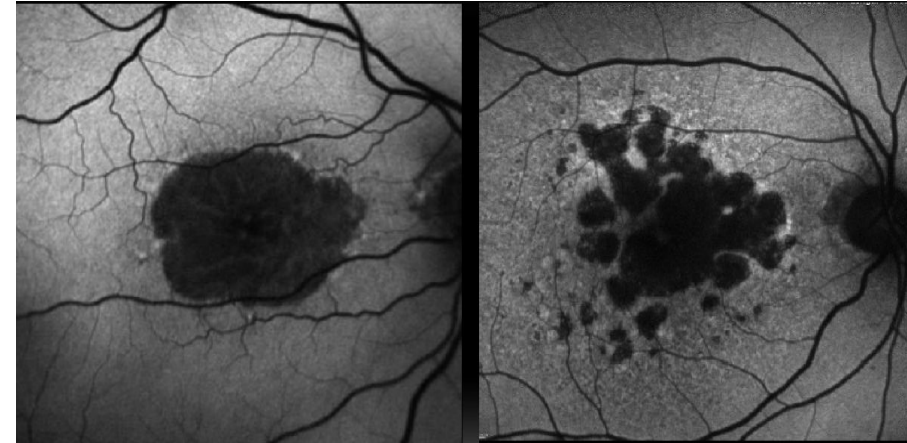
# Financial disclosures

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- Please add
- This study was supported by Apellis Pharmaceuticals

# Introduction

- Geographic Atrophy (GA) remains an important unmet medical need in Ophthalmology
- Major cause of legal blindness<sup>1-3</sup>
- Several investigational drugs in clinical trials



## Purpose

To evaluate clinical characteristics and disease progression in patients diagnosed with GA secondary to AMD in real-world practice using the **American Academy of Ophthalmology IRIS<sup>®</sup> Registry (Intelligent Research in Sight) database**

The IRIS Registry is the world's largest **specialty** clinical data registry, with over >59.99 million unique patients and 18,209 clinicians in ophthalmology practice, as of Sep 1, 2020

# Study Design Overview

## Inclusion

### Patients $\geq 50$ years at index date

- ICD-10 coding for GA in at least one eye; GA or nAMD in the fellow eye
- If both eyes met the inclusion criterion, the eye with better VA was designated as the study eye
- At least 2-years follow-up

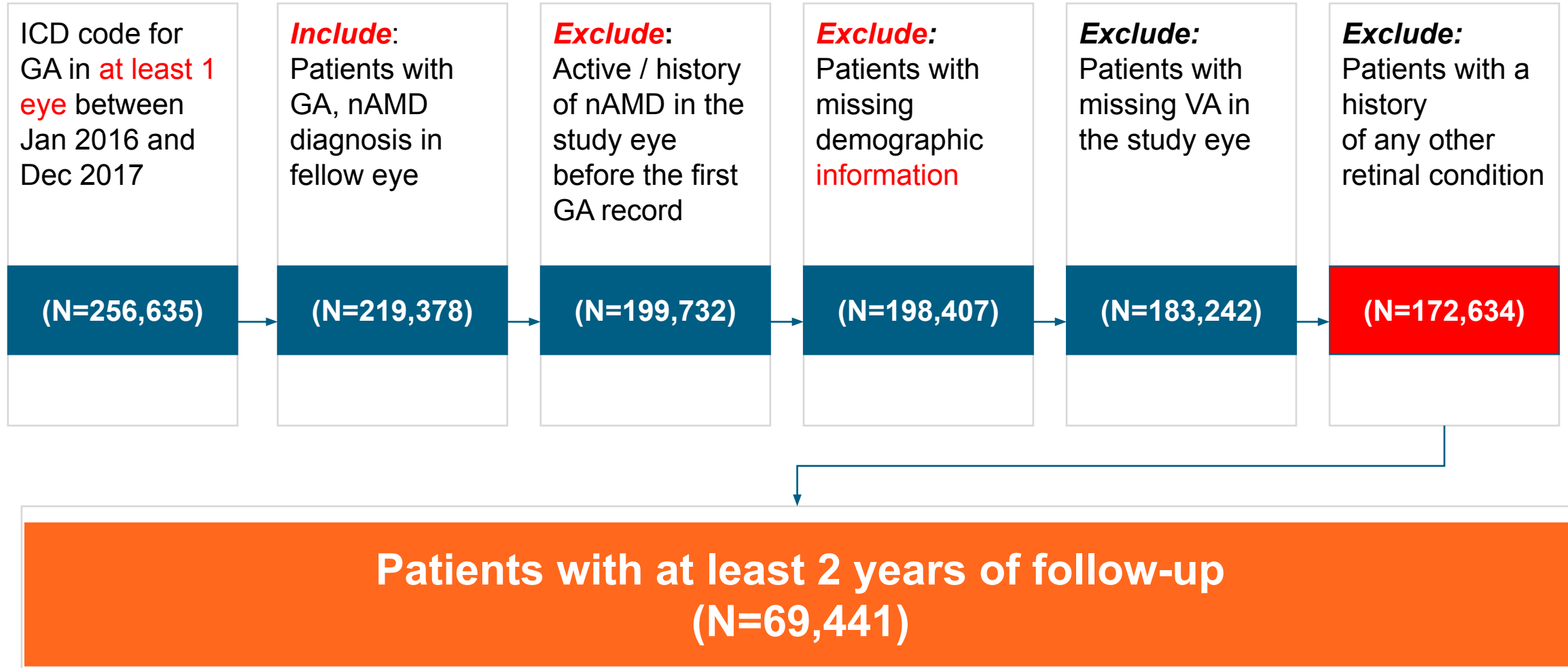
## Exclusion

- History of nAMD in the study eye before the first GA record during the study period
- Patients with missing demographic information, laterality, and visual acuity data

## Study Time Periods

| 2013 - 2015             | 2016 - 2017               | 2018 - 2019       |
|-------------------------|---------------------------|-------------------|
| Exclusion of hx of nAMD | Period to enter the study | Follow-up period  |
| Pre-Index Period        | Index Period              | Post-Index Period |

# Patient Disposition



# Study Cohorts

Patients were grouped according to fellow eye status (GA vs nAMD) and GA lesion location (extrafoveal vs foveal)

| <b>Cohort 1 – GA : GA<br/>(n= 44,120)</b>               |  | <b>Cohort 2 – GA : nAMD<br/>(n= 25,321)</b>             |  |
|---|--|---|--|
| <b>1A – Study eye<br/>Extrafoveal GA<br/>(n=22,791)</b> | <b>1B – Study eye<br/>Foveal GA<br/>(n=21,329)</b> | <b>2A – Study eye<br/>Extrafoveal GA<br/>(n=12,309)</b> | <b>2B – Study eye<br/>Foveal GA<br/>(n=13,012)</b> |

# Baseline Characteristics and Treating Provider

|   | COHORT 1 – GA:GA |            | COHORT 2 – GA:nAMD |            |
|---|------------------|------------|--------------------|------------|
|   | n                | %          | n                  | %          |
| <b>N, % of total study</b>              | <b>44,120</b>    | <b>63%</b> | <b>25,321</b>      | <b>37%</b> |
| <b>Age</b>                              |                  |            |                    |            |
| Mean (SD)                               | 81.38 (8.68)     |            | 82.58 (7.90)       |            |
| <b>Sex, n (%)</b>                       |                  |            |                    |            |
| Female                                  | 29,685           | 67%        | 16,916             | 67%        |
| Male                                    | 14,435           | 33%        | 8,405              | 33%        |
| <b>Race, n (%)</b>                      |                  |            |                    |            |
| White or Caucasian                      | 37,594           | 85%        | 22,368             | 88%        |
| Black or African American               | 506              | 1%         | 133                | 0.5%       |
| Asian                                   | 571              | 1%         | 195                | 0.8%       |
| Other                                   | 163              | 0.4%       | 64                 | 0.3%       |
| Unknown                                 | 5,286            | 12%        | 2,561              | 10%        |
| <b>Treating Provider, n (%)</b>         |                  |            |                    |            |
| Retina Specialist                       | 24,297           | 55%        | 21,871             | 86%        |
| General ophthalmologist                 | 8,770            | 20%        | 1,898              | 7%         |
| Other Specialist (eg, cornea, glaucoma) | 7,953            | 18.0%      | 1,113              | 4%         |
| Optometrist                             | 2,789            | 6%         | 323                | 1%         |
| Unknown                                 | 311              | 0.7%       | 116                | 0.5%       |

# Baseline Characteristics – BCVA at Index Period

|                               | COHORT 1: GA:GA |           | COHORT 2: GA:nAMD |           |
|-------------------------------|-----------------|-----------|-------------------|-----------|
|                               | N (or mean)     | % (or SD) | N (or mean)       | % (or SD) |
| <b>VA at index, study eye</b> |                 |           |                   |           |
| n                             | 44,120          |           | 25,321            |           |
| Mean ETDRS Letters, (SD)*     | 63.35           | 22.02     | 56.01             | 25.72     |
| 20/20 or better               | 6,294           | 14%       | 2,161             | 8%        |
| <20/20 or ≥20/40              | 18,628          | 42%       | 9,407             | 37%       |
| <20/40 or ≥20/100             | 11,144          | 25%       | 6,354             | 25%       |
| <20/100 or ≥20/200            | 3,765           | 8%        | 2,762             | 10%       |
| <20/200                       | 4,289           | 9%        | 4,637             | 18%       |

\*Snellen was converted to ETDRS letters



# Baseline characteristics – BCVA at index period

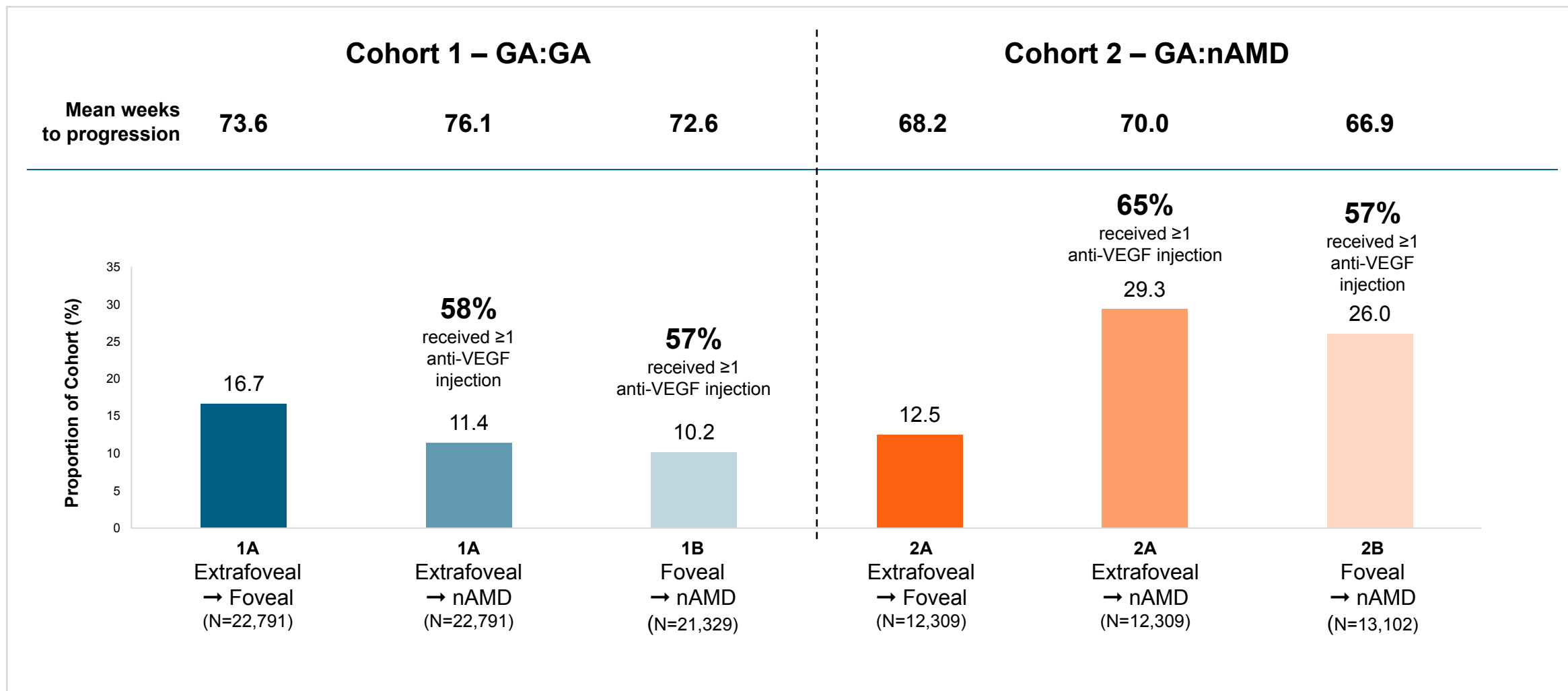
|                               | COHORT 1A: GA:GA<br>Extrafoveal GA |           | Cohort 1B: GA:GA<br>Foveal GA |           |
|-------------------------------|------------------------------------|-----------|-------------------------------|-----------|
|                               | N (or mean)                        | % (or SD) | N (or mean)                   | % (or SD) |
| <b>VA at index, study eye</b> |                                    |           |                               |           |
| n                             | 22,791                             |           | 21,329                        |           |
| Mean ETDRS Letters, (SD)*     | 67.45                              | 19.25     | 58.98                         | 23.87     |
| 20/20 or better               | 3,571                              | 15%       | 2,723                         | 12%       |
| <20/20 or ≥20/40              | 11,354                             | 49%       | 7,274                         | 34%       |
| <20/40 or ≥20/100             | 5,209                              | 22%       | 5,935                         | 28%       |
| <20/100 or ≥20/200            | 1,179                              | 5%        | 2,586                         | 12%       |
| <20/200                       | 1,478                              | 6%        | 2,811                         | 13%       |

|                               | COHORT 2A: GA:nAMD<br>Extrafoveal GA |           | Cohort 2B: GA:nAMD<br>Foveal GA |           |
|-------------------------------|--------------------------------------|-----------|---------------------------------|-----------|
|                               | N (or mean)                          | % (or SD) | N (or mean)                     | % (or SD) |
| <b>VA at index, study eye</b> |                                      |           |                                 |           |
| n                             | 9,187                                |           | 13,012                          |           |
| Mean ETDRS Letters, (SD)*     | 65.69                                | 20.34     | 46.86                           | 26.91     |
| 20/20 or better               | 1,469                                | 12%       | 692                             | 5%        |
| <20/20 or ≥20/40              | 6,295                                | 51%       | 3,112                           | 24%       |
| <20/40 or ≥20/100             | 2,930                                | 24%       | 3,424                           | 26%       |
| <20/100 or ≥20/200            | 632                                  | 5%        | 2,130                           | 16%       |
| <20/200                       | 983                                  | 8%        | 3,654                           | 28%       |

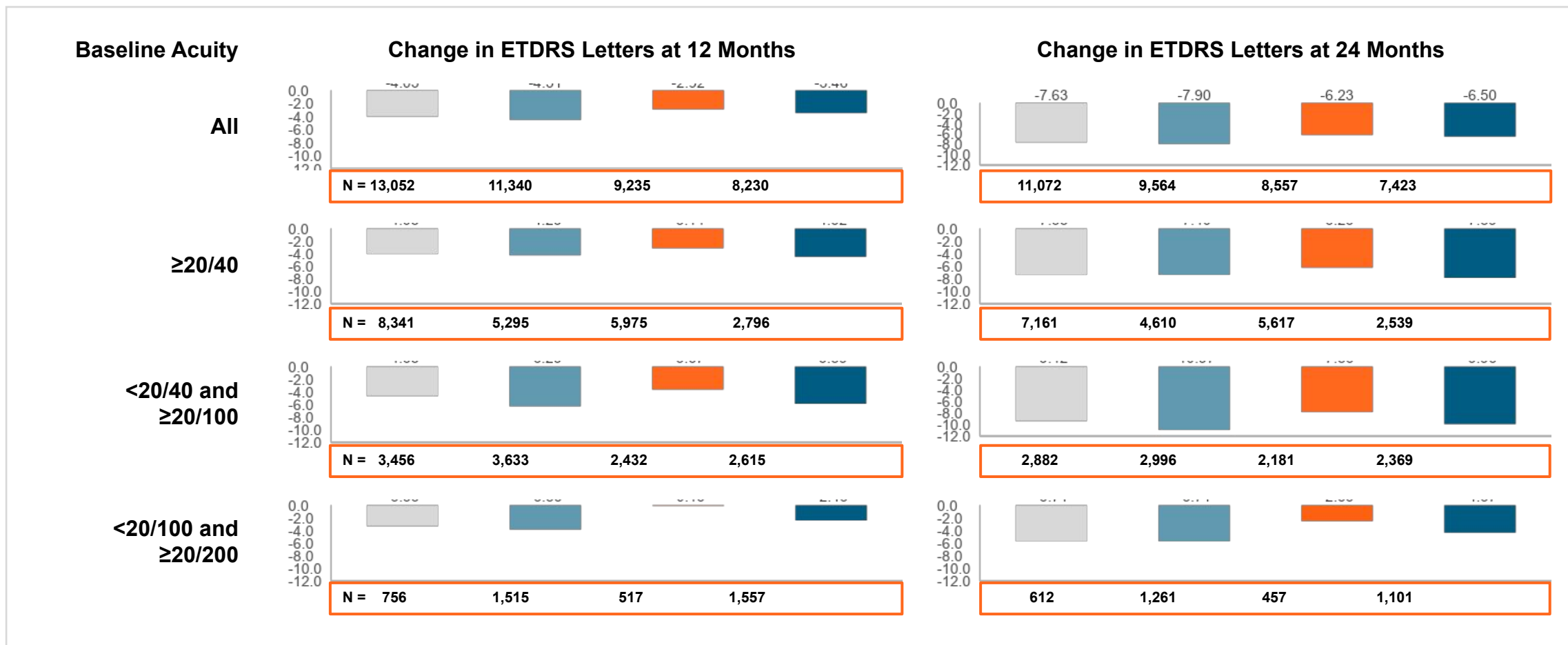
\*Snellen was converted to ETDRS letters

# Disease Progression



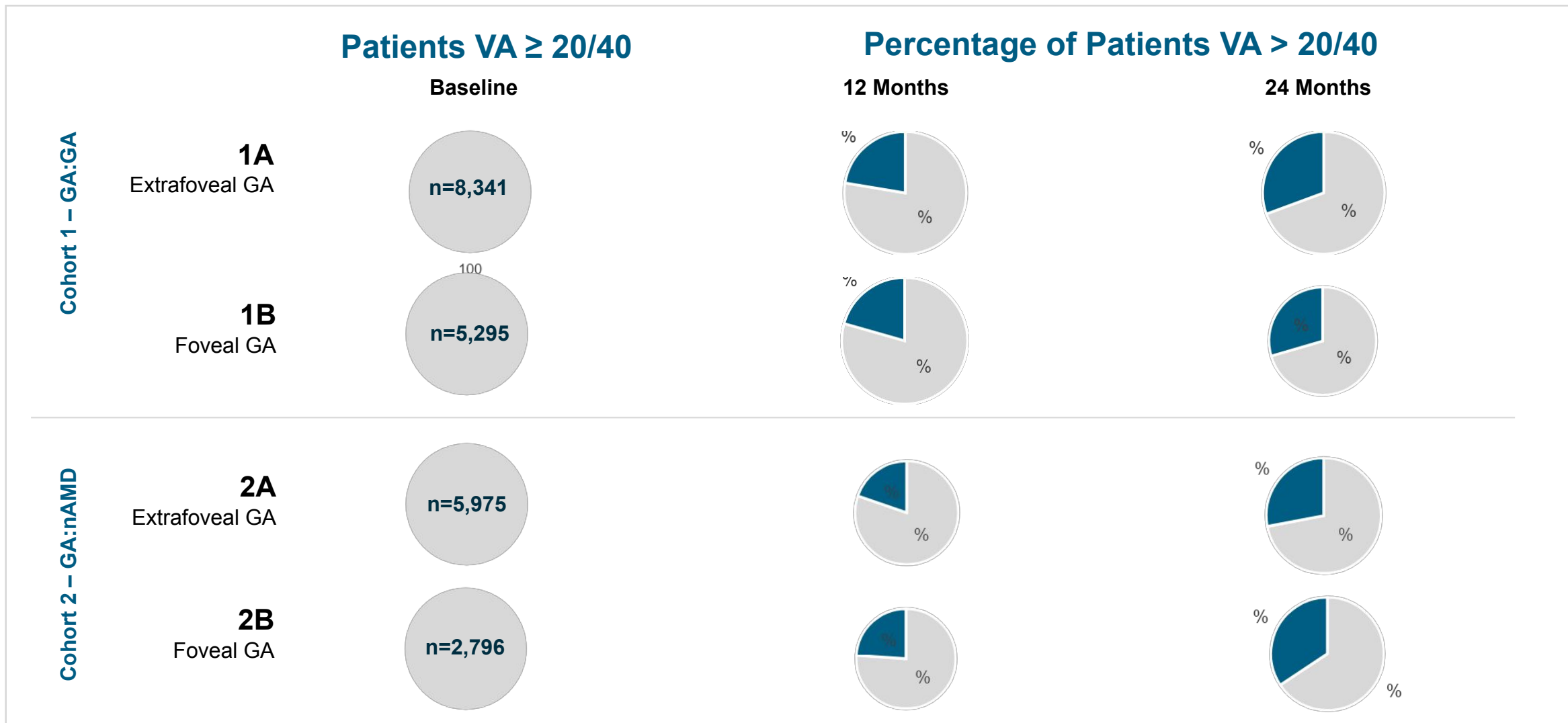
Patients were followed for ≥2 years with mean (SD) follow up of 1001 (164) days and median follow up of 998 days (IQR:261)

# Mean Changes in Visual Acuity



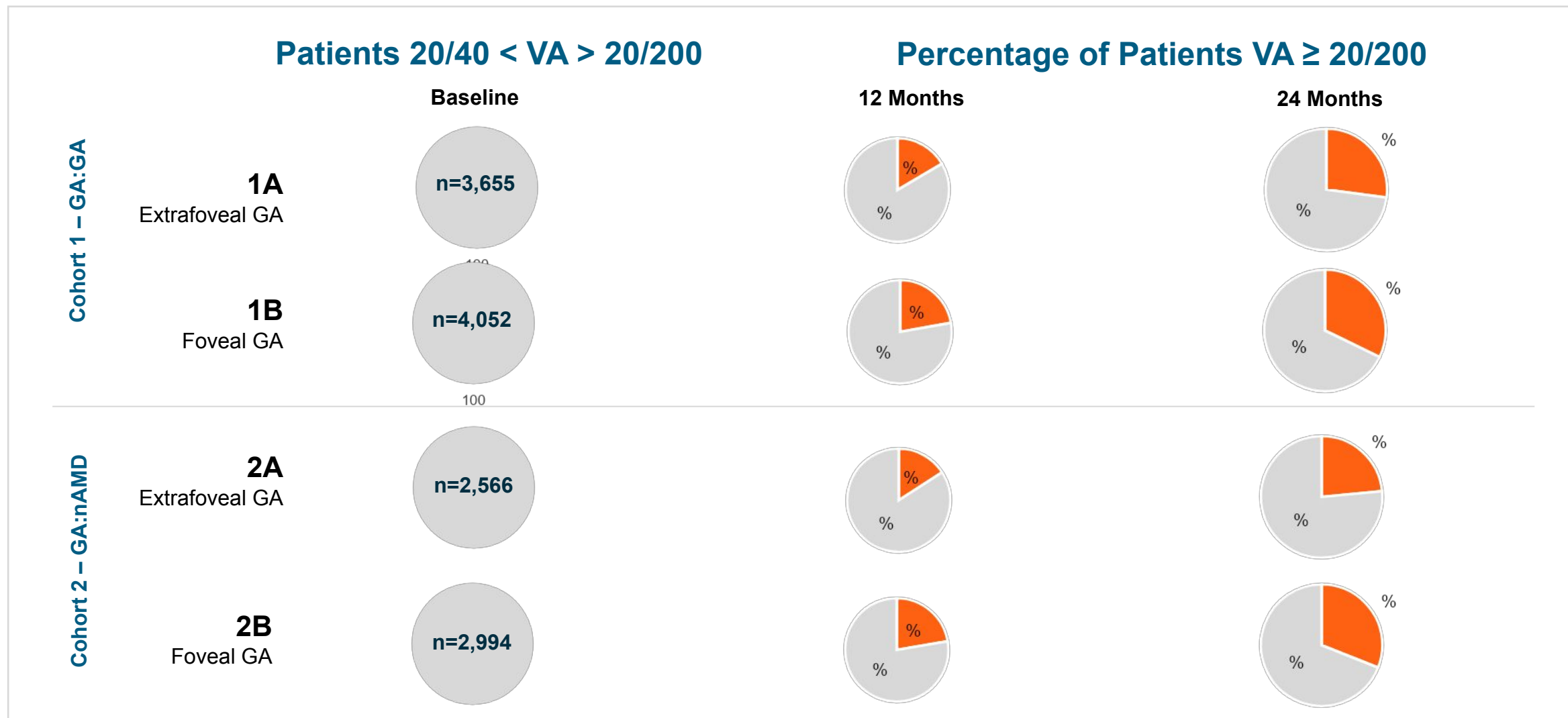
Analysis includes only patients with Baseline and either Month 12 or 24 VA data available.

# Categorical Progression to VA <20/40



20/40 or better
  worse than 20/40

# Categorical Progression to VA $\leq 20/200$



<20/40 and  $\geq 20/200$ 
 <20/200

# Key Take-Home Messages

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- This is the largest retrospective database study in GA to date
- GA patients are frequently seen in clinical practice, but a large proportion ~~are~~ **may** not return for follow-up visits
- Visual acuity at the initial clinical encounter is relatively **preserve**, especially in extrafoveal GA patients
- Eyes with good vision tend to **lose less** more letters in the first 2 years compared to eyes with poor vision
- Progression to nAMD is considerably higher if ~~presence of~~ **is present** in the fellow eye
- GA remains an important unmet need in clinical practice and patient education on disease outcomes is highly important