

Results of a Delphi Consensus Study of Geographic Atrophy (GA) Diagnosis and Current Management

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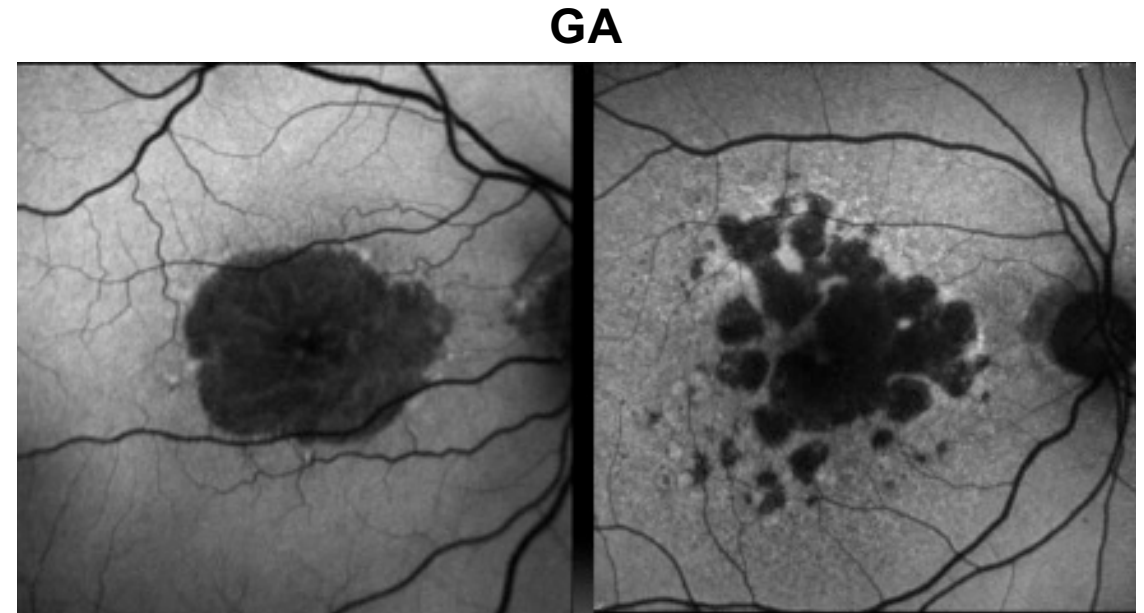
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Disclosures

- Rishi Singh has the following financial interests or relationships to disclose:
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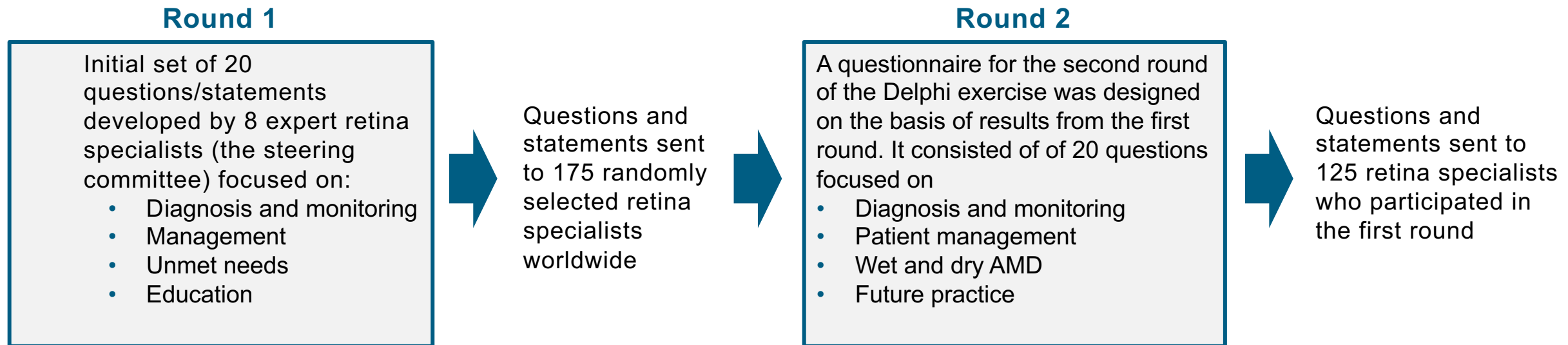
Introduction

- Geographic atrophy (GA) is the advanced form of dry age-related macular degeneration (AMD) that results in progressive and irreversible disease and affects approximately 5 million people worldwide^{1,2}
- There are currently no approved medications for the treatment of GA³
- In addition, there are no overall comprehensive guidelines for the diagnosis and monitoring of patients with GA
- This Delphi consensus development exercise was carried out to provide consensus guidance for the identification, monitoring, and management of patients with GA; and to determine the most important unmet needs in this disease



Methods

- A Delphi study is a widely used method to obtain input from a group of experts. The key features are anonymity among respondents with controlled feedback provided in a structured manner. Survey designers may then adjust their initial ratings based on feedback from the respondents over multiple subsequent iterations¹



- Questions were open ended, multiple choice, rank order, and level of agreement (Likert scale)
- Results from each round were reviewed by the steering committee and consensus was achieved:
 - If they were selected by $\geq 75\%$ of respondents (multiple choice questions)
 - If an option was ranked as 1 or 2 by $\geq 75\%$ of respondents (ranking questions)
 - If response ratings were 6-9 for $\geq 75\%$ of respondents (statements ranked with responses on a 9-point scale)









AMD=age-related macular degeneration.

1. Diamond IR, et as. *J Clin Epidemiol.* 2014;67(4):401-409.

Respondents (Round 1)

- Respondents specialized in the treatment of retinal disorders
- Experience:
 - Mean of 14.5 years practicing in specialty (standard deviation = 8.0 years, range = 3–42 years)
 - Practice setting:
 - Public sector: 46%
 - Private sector: 51%
 - Training/teaching/university hospital: 36%
 - Median number of patients with GA seen each month (50, interquartile range = 30–100)

Distribution by country:

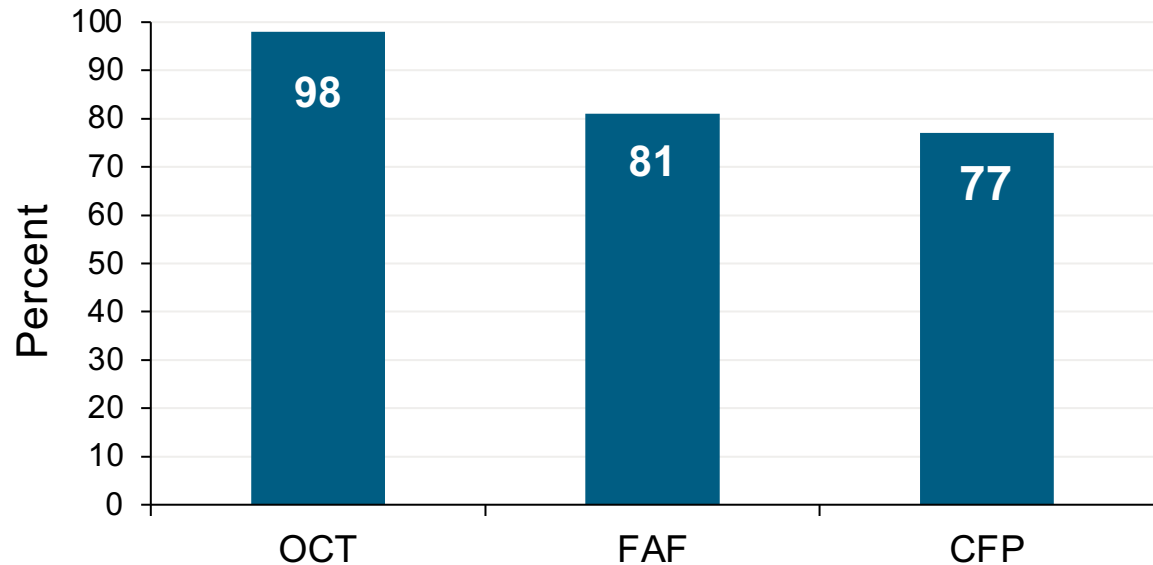
	United States: 15%
	Germany: 15%
	United Kingdom: 14%
	France: 14%
	Australia: 14%
	Italy: 11%
	Spain: 11%
	Canada: 6%



**Where consensus was achieved
with $\geq 75\%$ response**

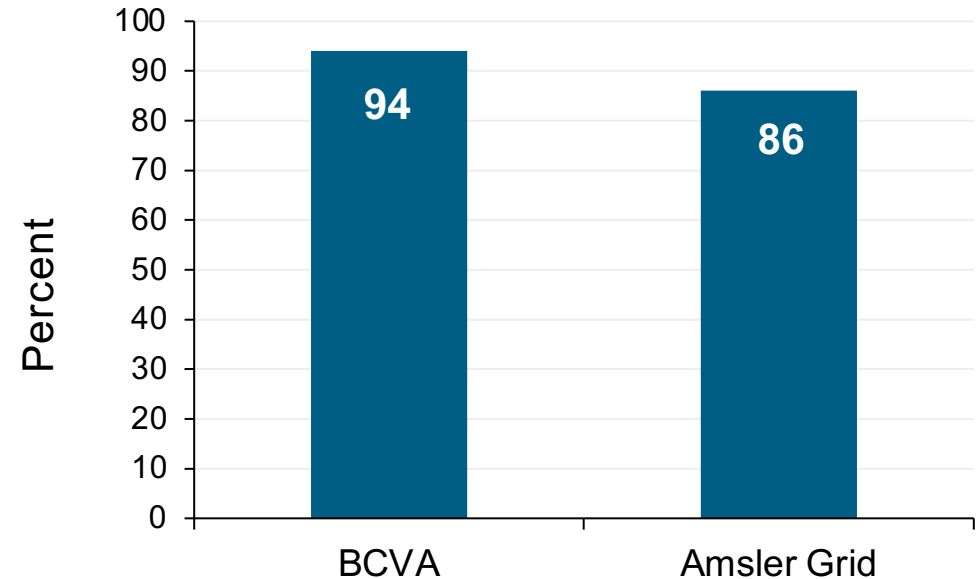
Consensus recommendations: Functional measures and imaging modalities

Which of the following imaging modalities do you use in regular clinical practice for GA?^a



Other responses: Fundus fluorescein angiography, OCT angiography, Near-infrared / Near-infrared reflectance spectroscopy, Other

Which of the following functional measures or tests do you use in regular clinical practice?^b



Other responses: Routine/habitual visual acuity, QoL questionnaires (e.g., VFQ-25), Microperimetry, Reading speed, LL BCVA, Digital applications (e.g., computer or smart phone); Dark adaptometry, Other

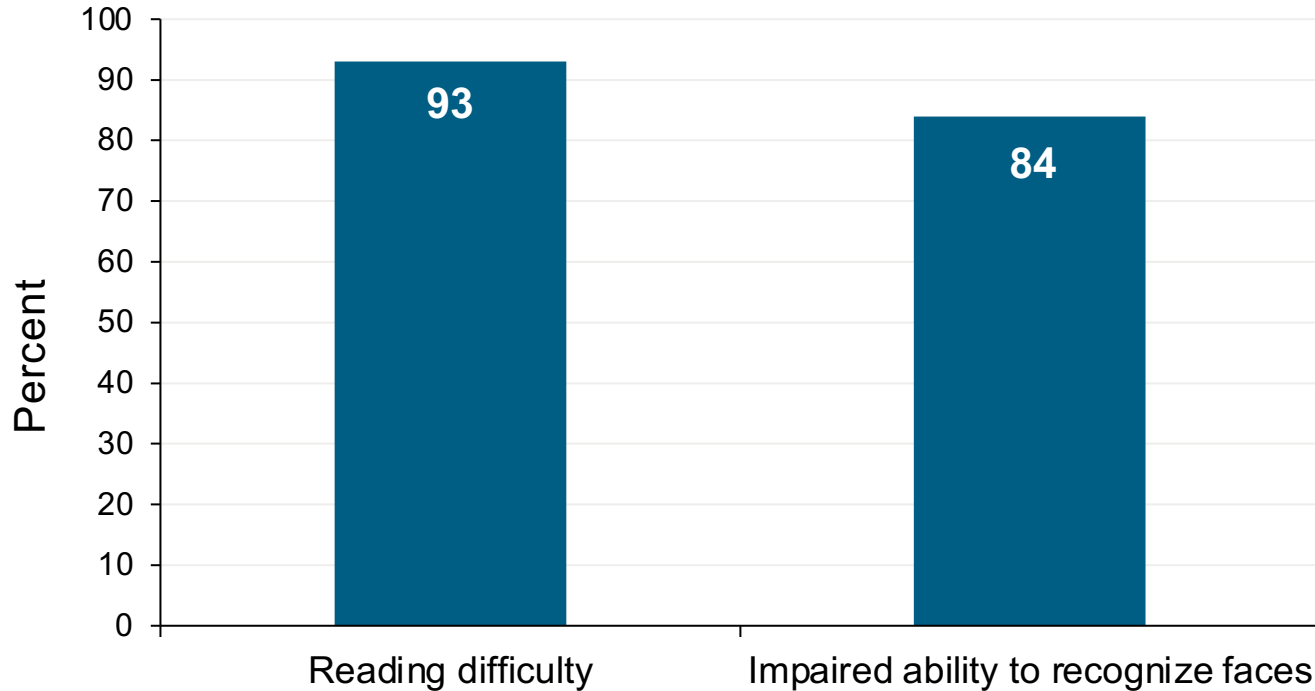
OCT was viewed as the most important tool for diagnosing GA (82%)

Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.

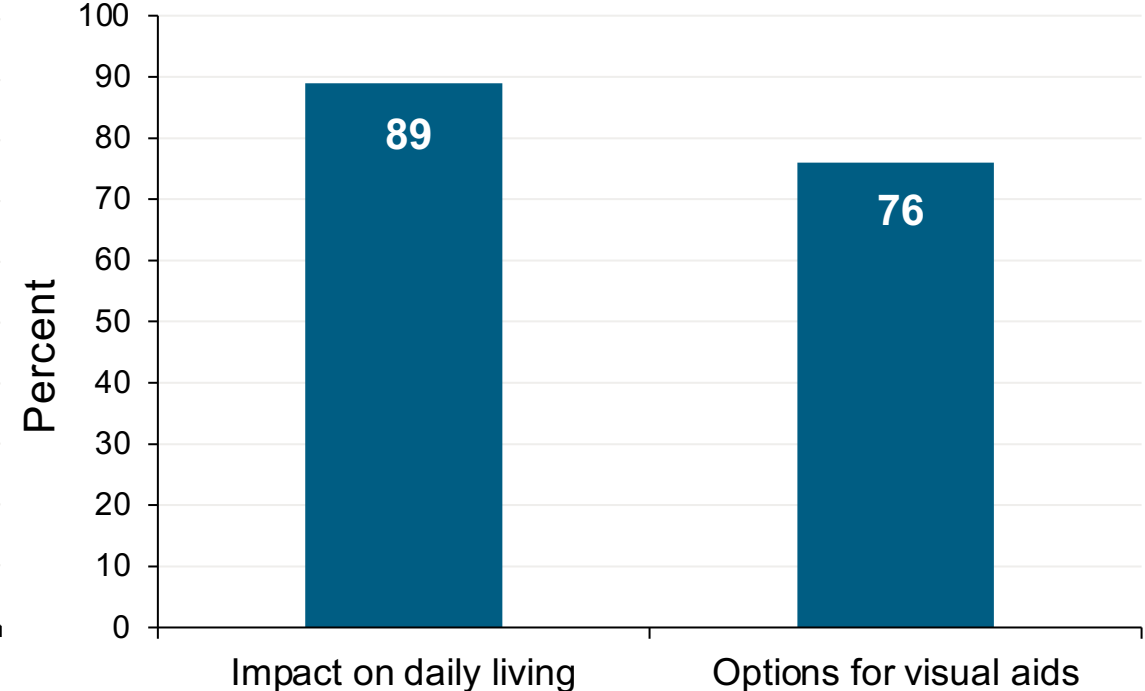
CFP=color fundus photography; FAF=fundus autofluorescence; GA=geographic atrophy; LL BCVA=low-luminance best-corrected visual acuity; OCT=ocular coherence tomography; QoL=quality of life; VFQ=Visual Function Questionnaire.

Consensus recommendations: Assessing patient symptoms and quality of life

What symptoms of GA do you look for/inquire about during the first visit?



What are the most important topics to discuss with a patient newly diagnosed with GA?

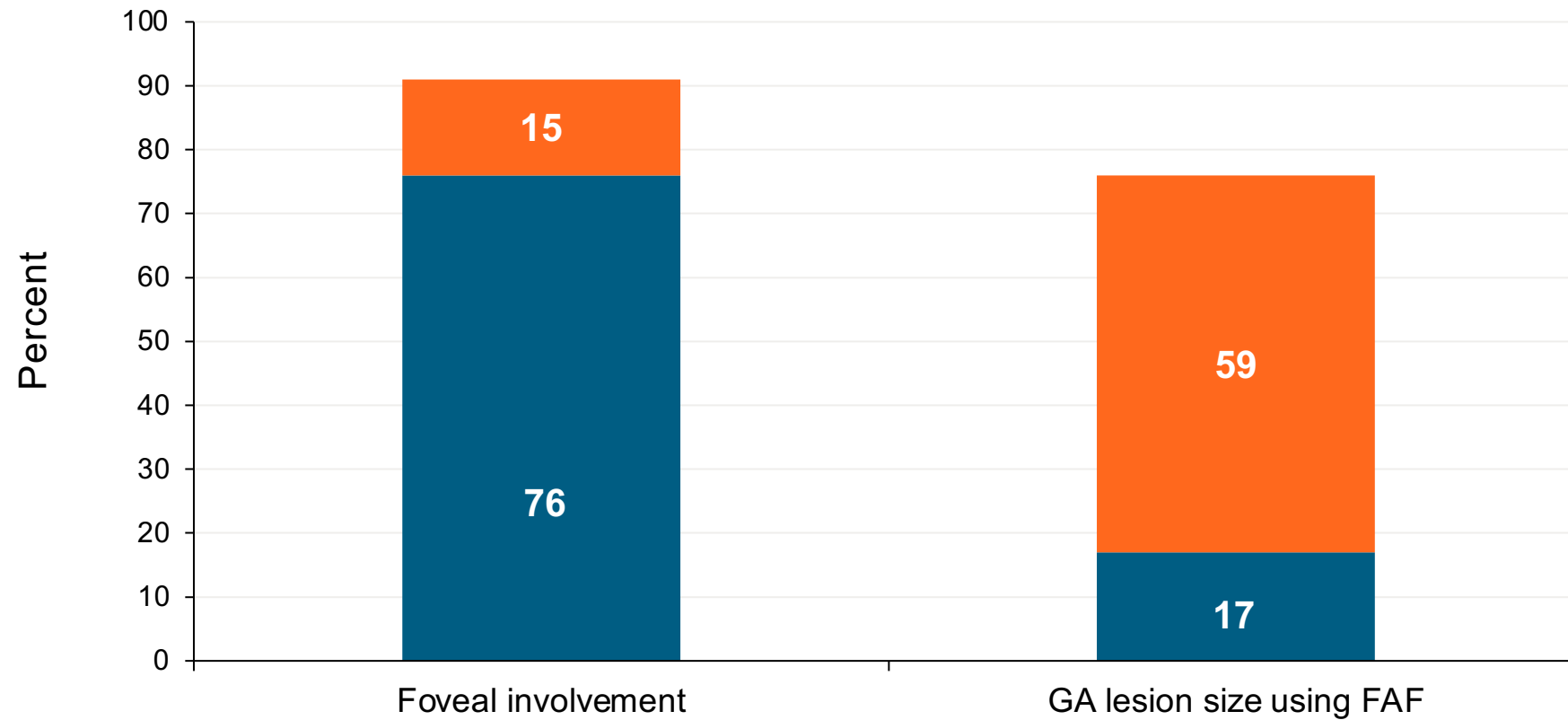


Other responses: Reduced ability to text / type on a computer or mobile device; Inability to drive; Inability to watch television; Impaired night vision / functioning in dim light; Impaired / delayed dark adaptation; Glare symptoms; Other

Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.
BCVA=best corrected visual acuity; GA=geographic atrophy.

Consensus recommendations: Establishing a prognosis and patient discussion

Rank order the importance of each variable for determining GA prognosis

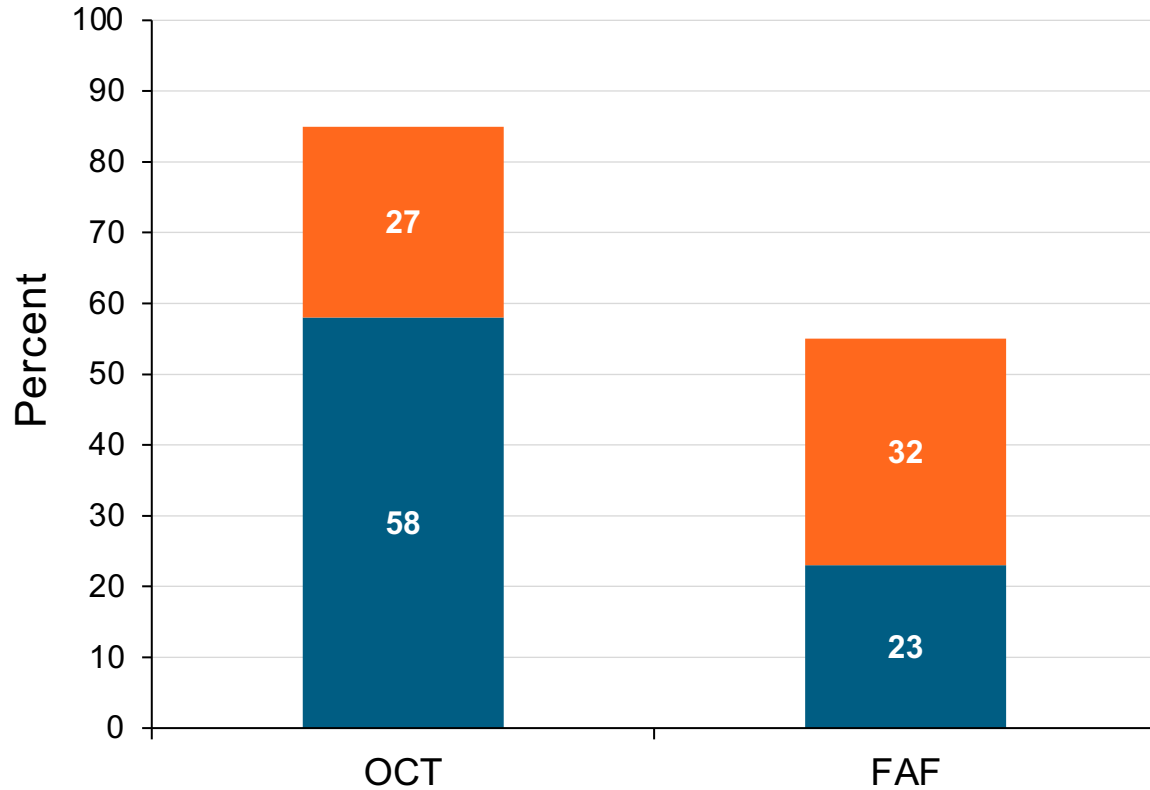


Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.
FAF=fundus autofluorescence; GA=geographic atrophy

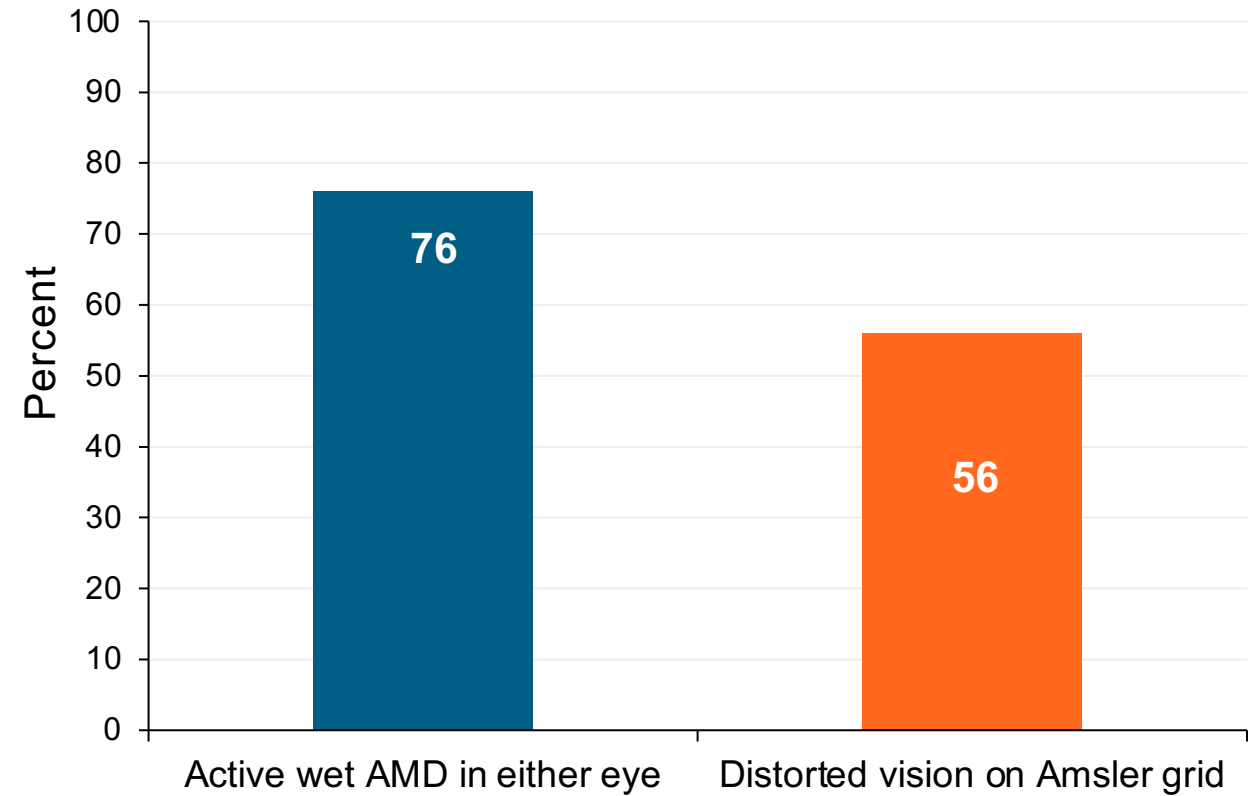
■ Ranked first ■ Ranked second

Consensus recommendations: Patient monitoring (1)

Rank order the importance of each imaging modality when monitoring a patient with GA



Which circumstances most frequently cause you to follow GA patients more closely?

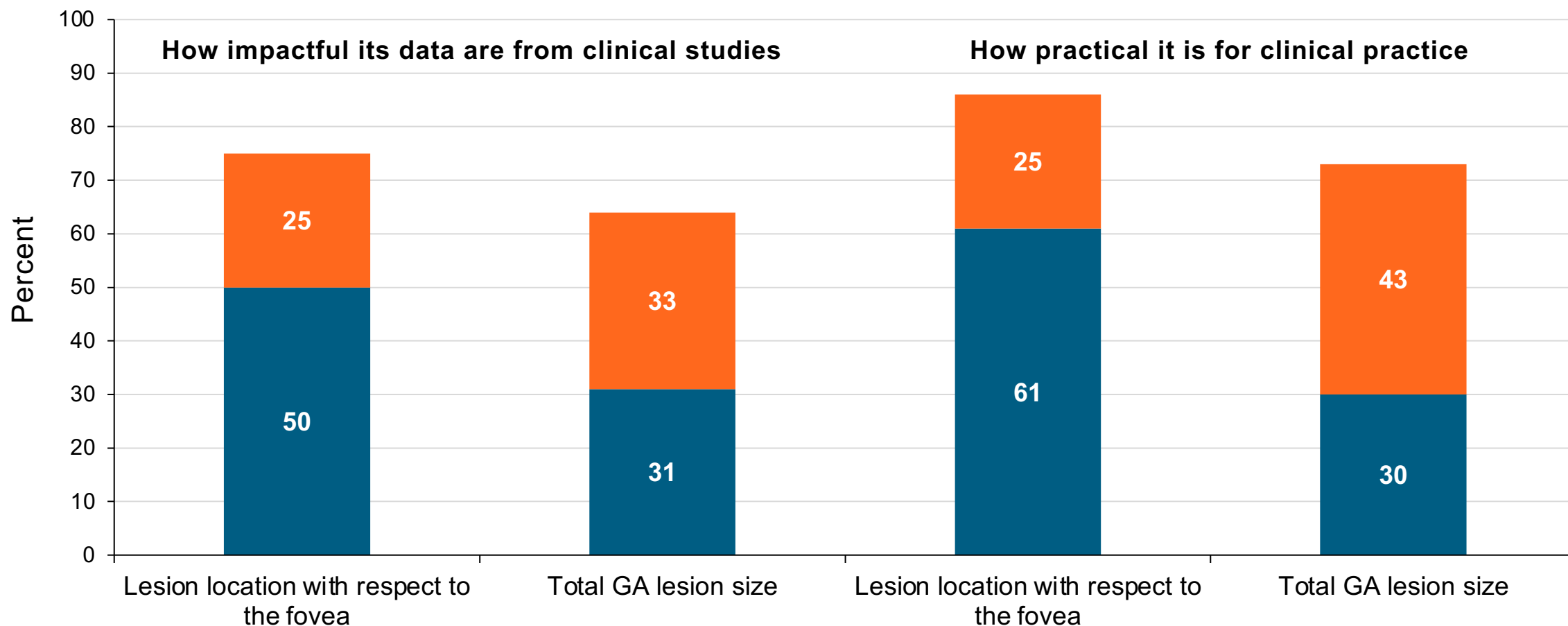


Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.
When only one option achieved consensus, the second highest choice is also shown.
AMD=age-related macular degeneration; GA=geographic atrophy; OCT=ocular coherence tomography

■ Ranked first ■ Ranked second

Consensus recommendations: Patient monitoring (2)

Rank order each GA biomarker (ranked on a scale of 3 from most important to least important)



Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.

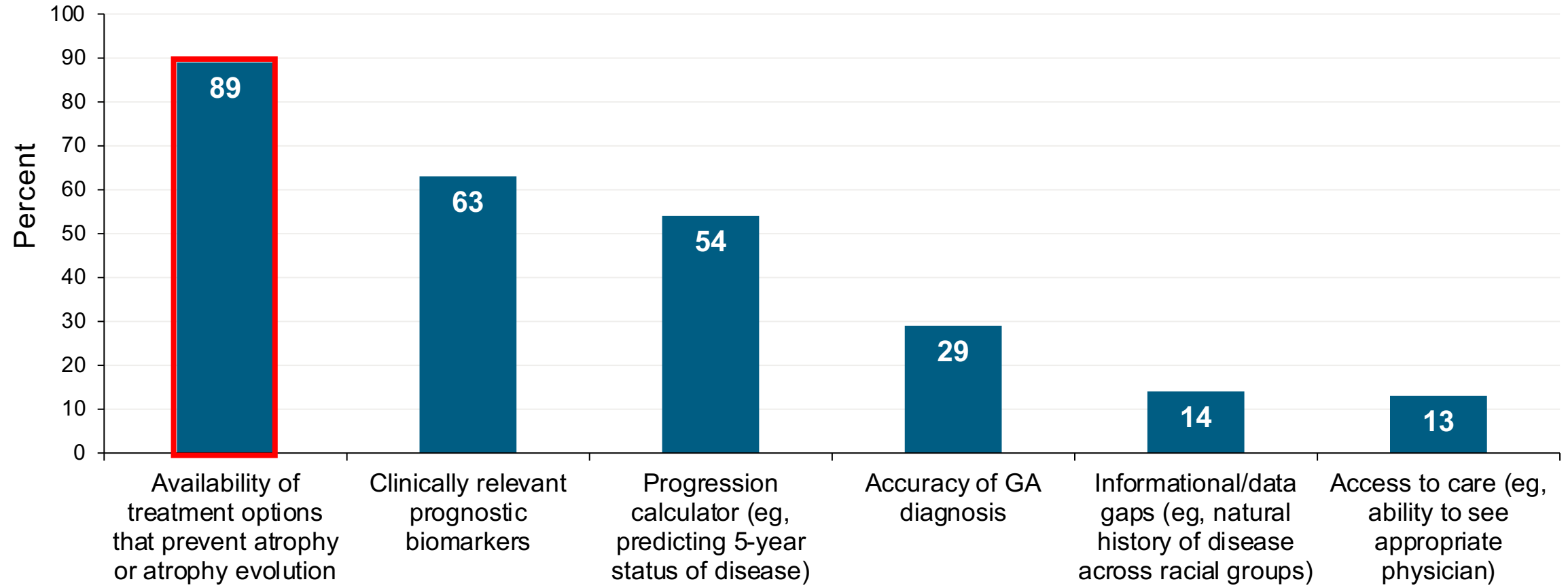
When only one option achieved consensus, the second highest choice is also shown.

AMD=age-related macular degeneration; GA=geographic atrophy; OCT=ocular coherence tomography

■ Ranked first ■ Ranked second

Unmet needs

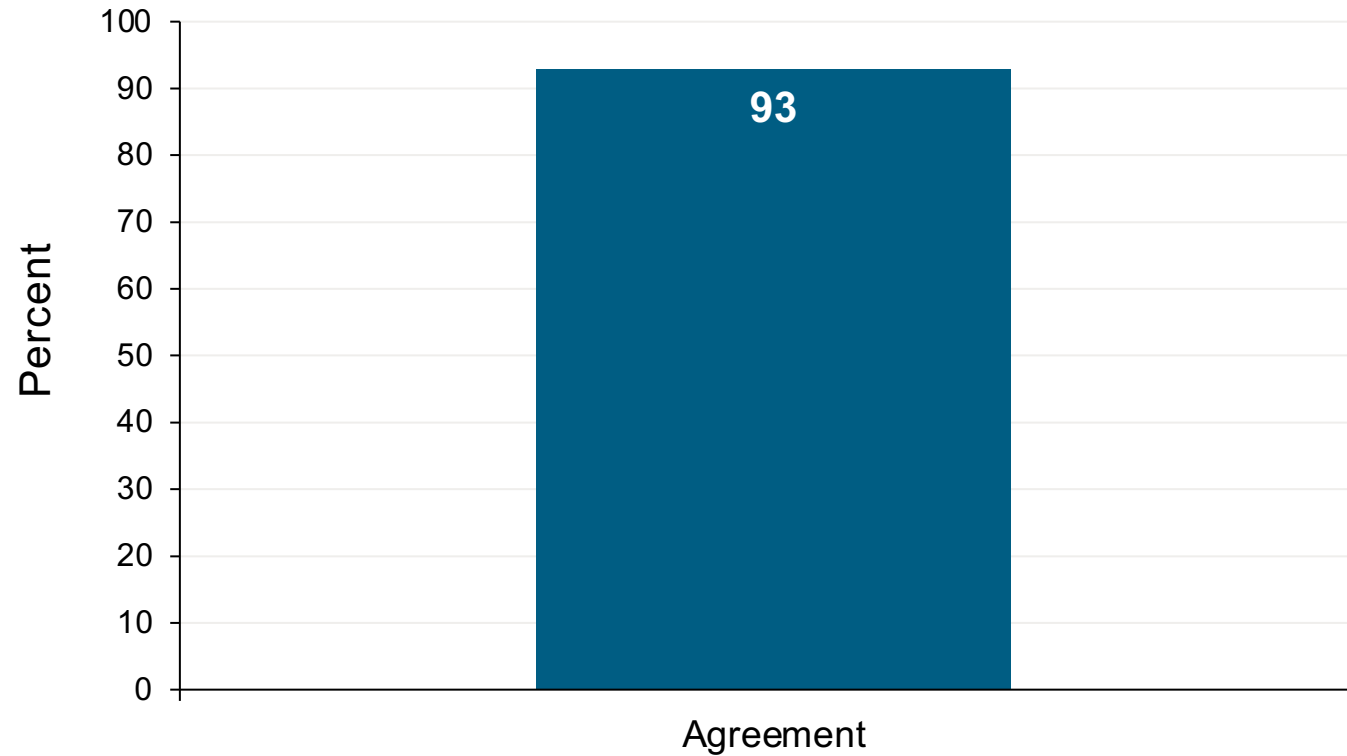
What are the most important unmet needs in GA?



Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.
GA=geographic atrophy.

Patients with CNV

Patients with CNV controlled by anti-VEGF therapy can continue to experience vision loss due to atrophic lesions



Consensus defined as selection or threshold ranking by $\geq 75\%$ of respondents.
CNV=choroidal neovascularization; GA=geographic atrophy; VEGF=vascular endothelial growth factor.



Where consensus was not achieved

Selected questions / statements: Diagnosis

Most frequent responses

What features of GA most frequently prompt referral to you?

- 1** **56%:** uncorrectable reduction in visual acuity
- 2** **51%:** risk of foveal involvement

What conditions most commonly need to be excluded when confirming the diagnosis of GA?

- 1** **68%:** macular atrophy due to exudation and neovascularization
- 2** **57%:** Inherited retinal diseases (e.g., Stargardt disease, angioid streaks, Sorsby fundus dystrophy)

Selected questions / statements: Patient management

Most frequent responses

At present, which of the following assessments are most useful for the management of GA?

- 1 62%: foveal involvement
- 2 55%: BCVA

In general, how frequently do you have follow-up visits / consultations with GA patients?

- 1 52%: once every 6 months
- 2 21%: once every 12 months

In general, how would you rate the awareness / uptake of imaging classifications?

- 1 35%: medium
- 2 30%: high

In your opinion, which of the following are relevant biomarkers in GA?

- 1 69%: total GA lesion size
- 2 53%: lesion location

Selected questions / statements: Treatment

Most frequent responses

In your clinical experience, what current practices in dry AMD / GA are most beneficial to patients?

- 1** **68%:** smoking cessation
- 2** **60%:** Low vision aids (e.g., magnifying device, text-to-audio technology)

Rank order each measure by how impactful its data are from clinical studies?^a

- 1** **54%:** quality of life questionnaires
- 2** **40%:** low luminance BCVA

^aRanked first or second of six.

AMD=age-related macular degeneration; BCVA=best corrected visual acuity; GA=geographic atrophy.

Selected questions / statements: Wet AMD

Most frequent responses

For patients with CNV who develop atrophy within the same eye, which of the following is more common?

- 1 **70%:** atrophy co-localized within areas of existing CNV
- 2 **30%:** atrophy outside areas of existing CNV

In patients with wet AMD, which terminology would you use for an atrophic lesion that develops within areas of CNV?

- 1 **41%:** macular atrophy
- 2 **38%:** RPE atrophy

In patients with wet AMD, which terminology would you use for an atrophic lesion that develops outside areas of CNV?

- 1 **50%:** GA
- 2 **30%:** RPE atrophy

For patients with confirmed GA who develop CNV within the same eye, which of the following is more common?

- 1 **71%:** CNV on the edge of existing atrophy
- 2 **16%:** CNV co-localized within areas of existing atrophy

Conclusions

- This study is the first exercise aimed at obtaining consensus among retina specialists on current practices in GA diagnosis and management
 - Treating physicians agreed on several aspects of GA diagnosis, including the use of imaging modalities and impact on QoL
 - Although foveal involvement and GA lesion size are important biomarkers in determining GA patient prognosis, identifying robust biomarkers was reported as a significant data gap
- Management routinely involved recommendations on smoking cessation and the use of low vision aids; however, experts agreed these were minimally effective as the current standard of care
- The need for treatment options was identified as the largest unmet need in GA, and could potentially trigger more frequent follow-ups and disease monitoring along with a better preservation of vision and improved QoL outcomes