Which factors affect patient adherence to treatment for nAMD? An analysis of more than 4500 patients from more than 70 clinics in the Barometer Global Survey

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DR Barometer
Shifting the needle

nAMD Barometer
Overcoming Barriers

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Non-adherence is a significant, ongoing problem in routine clinical practice

Challenge

- **Non-adherence to treatment** for neovascular age-related macular degeneration (nAMD) impacts patient outcomes[1]
- **Identifying patients at risk of non-adherence** could help improve real-world outcomes

Approach

The Barometer Global Survey was a **worldwide survey of patients with nAMD** to:

- **Quantify known and unknown barriers to treatment**
- **Identify challenges and opportunities** that could be addressed with meaningful interventions to improve patient outcomes[2a]

Objective

Using Global Survey data, to:

- **Characterize factors associated with non-adherence**
- Understand and identify where patients receiving treatment for retinal diseases could require additional support to maintain adherence

Hypothesis

- **Certain modifiable and non-modifiable risk factors** may be more prevalent in non-adherent versus adherent patients with nAMD

A global cohort of patients with nAMD

DR Barometer — Shifting the needle

nAMD Barometer — Overcoming Barriers

Croatia 11
Germany 200
France 127
Portugal 188
Greece 194
Switzerland 157
Russia 388
United Arab Emirates 6
Israel 105
Saudi Arabia 21
Canada 161
Turkey 158
Kuwait 54
Mexico 526
China 498
Colombia 283
Indonesia 354
Australia 178

4558 patients with nAMD in 77 clinics across 24 countries

Brazil 77
Ghana 30
Nigeria 119
Ethiopia 161
Kenya 23
India 539

Noted below flags are numbers of completed surveys per country. Surveys included a variety of questions on personal characteristics, disease awareness, treatment experiences, and challenges and opportunities. They contained multiple choice questions asking strength of opinions on challenges and opportunities (Likert scale), and single choice questions; no free text entry questions were included. nAMD, neovascular age-related macular degeneration.

Exploratory statistical analysis to identify factors affecting adherence

Factor analysis

Identified 19 variables (factors) explaining >60% of the interrelationships between Likert scale questions and answers

Common themes were applied:

Usefulness of information sources

Attending appointments

Doctor/patient relationship

Concern of losing vision

Treatment acceptance

Treatment needs and concerns

Worry of vision changes between appointments

Regression analysis

Identified participant characteristics associated with non-adherence, classified per previously-published definitions:[1]

Non-adherent
Missed ≥2 appointments over a 12-month period[1]

Odds ratios

Used to quantify the association between the factors & non-Likert scale questions, and nAMD patient characteristic profile of adherence

Characteristics that favor patients being non-adherent

Treatment burden

Odds ratio (95% CI)

Characteristic		Odds ratio (95% CI)
Self-pays their treatment (vs. covered by insurance)		2.5 (1.6–3.7)
nAMD diagnosed by their family doctor/GP (vs. diagnosed by the doctor currently treating their nAMD)		3.0 (1.4–6.6)
Received 4–10 injections (vs. ≤3 injections)		1.6 (1.2–2.3)
Received 41–60 injections (vs. ≤3 injections)		3.6 (1.6–8.3)
Delay between 2 weeks to 2 months between diagnosis and first treatment (vs. no delay)		1.7 (1.2–2.4)

Odds ratio

Contributes to non-adherence

Odds ratios are displayed with 95% CI. Only factors with non-overlapping CIs (i.e., not overlapping 1) are displayed.

The reference group for each characteristic is stated in brackets. CI, confidence interval; GP, general practitioner; nAMD, neovascular age-related macular degeneration.

Characteristics that favor patients being non-adherent

Level of information

Odds ratio (95% CI)

Receipt of partial messages or unclear information on disease and treatment
(vs. received clear information)

1.7 (1.2–2.4)

Wanted more information on the risk that nAMD could result in vision loss
(vs. no information needs)

2.6 (1.6–4.5)

Disease characteristics

Has bilateral nAMD
(vs. unilateral nAMD)

1.7 (1.3–2.2)

0 1 2 3 4 5 6 7 8 9

Odds ratio

Contributes to non-adherence

Summary of key points

✓ The likelihood of non-adherence increases with the number of injections, indicating that longer treatment durations could permit more opportunities for absenteeism

✓ A patient is more likely to be non-adherent if they have bilateral nAMD, versus having unilateral nAMD, demonstrating that an increased disease burden is associated with non-adherence
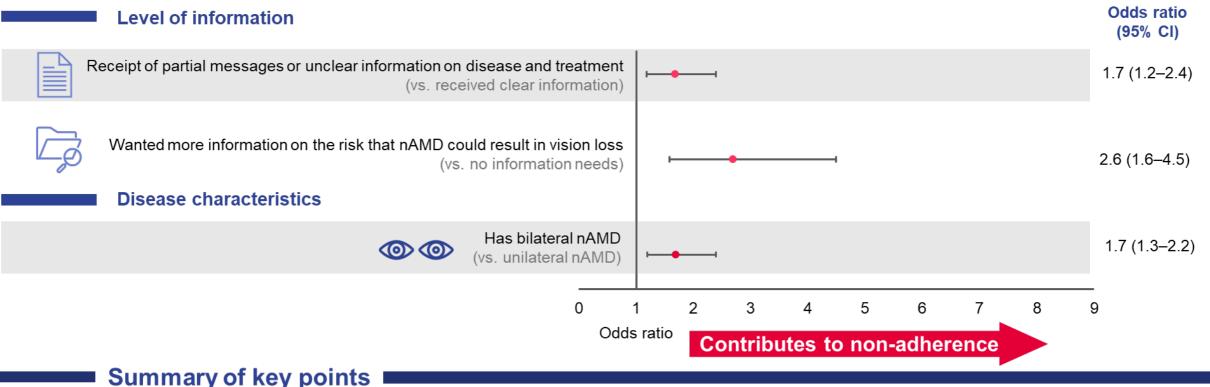
Odds ratios are displayed with 95% CI. Only factors with non-overlapping CIs (i.e., not overlapping 1) are displayed. The reference group for each characteristic is stated in brackets.
CI, confidence interval; nAMD, neovascular age-related macular degeneration.

Building on prior evidence to identify factors likely to lead to non-adherence

Identifying patient characteristics and challenges that may be associated with non-adherence allows clinicians to recognize patients at risk of non-adherence and **provide further support** before these patients begin to miss appointments

A systematic literature review found that **fear of injections, insufficient clinic capacity, and lack of accompanying people** contributed to non-adherence[1]

In the Barometer Global Survey, **over 40% of patients reported treatment, appointment, logistical, or financial burdens** related to their nAMD that made appointment attendance difficult[2]

This analysis identified **treatment burdens, levels of treatment- and disease-related information received, and disease characteristics** that increase the risk of non-adherence

These findings aligned with the literature, and the **broad and diverse population** indicates the systematic data from this study are **robust and generalizable**
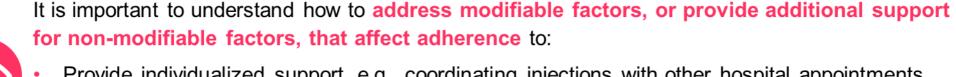
How do these findings enhance patient-focused care?

These insights into characteristics affecting patient adherence can be employed to **build a profile of the potentially non-adherent patient with nAMD** that clinicians can use to identify those **who may require more support** to stay on treatment

It is important to understand how to **address modifiable factors, or provide additional support for non-modifiable factors, that affect adherence** to:

- Provide individualized support, e.g., coordinating injections with other hospital appointments
- Prevent non-adherence, leading to improved vision and quality of life
- Optimize clinic set-up to remove barriers leading to non-adherence, e.g., appointment reminders

Future analyses are planned to understand **factors affecting adherence in patients with DME**

DME, diabetic macular edema; nAMD, neovascular age-related macular degeneration.

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Survey centers:

Australia: Sydney West Retina, Australian Eye Specialists, Retina Specialists Victoria. **Brazil:** Hospital Oftalmologico de Sorocaba, Hospital de Olhos de Araraquara, Centro de Referência em Oftalmologia, Centro Brasileiro da Visão. **Canada:** Unity Health Toronto, Retina Centre of Ottawa, Eye Care Centre NB. **China:** Zhongshan Ophthalmic Center of Sun Yat-sen University, Shanghai General Hospital, The First Affiliated Hospital of Dalian Medical University, The First Affiliated Hospital of Kunming Medical University, Henan Provincial People's Hospital, Xi'an People's Hospital. **Colombia:** Fundacion Oftalmologica Nacional, Clínica Oftalmológica del Caribe, Clínica Oftalmologica Unigarro, Cali Ophthalmology Clinic, Clínica Foscal. **Croatia:** KBC Zagreb. **Ethiopia:** Biruh Vision Specialized Eye Care Center, Nisir Specialized Eye Clinic, La Vista Speciality Eye Clinic, Roha Specialized Eye Clinic. **France:** Hôpital de la Croix Rousse, Centre PO2 (Pôle Oise Ophtalmologie), Centre Rétine Gallien. **Germany:** Universitätsklinikum Tübingen, Universitätsklinikum Bonn, Augenzentrum am St Franziskus-Hospital, Klinikums der Universität München. **Ghana:** Tamale Teaching Hospital. **Greece:** Ophthalmological Clinic Of University Hospital of Alexandroupolis. **India:** Shroff Charity Eye Hospital, ICARE Eye Hospital, Synergy Eye Care, Prakash Netra Kendra, Narayan Netralaya Eye Hospital, Hyderabad Eye Research Foundation, L V Prasad Eye Institute, Sankara Nethralaya. **Indonesia:** JEC Eye Hospitals & Clinics, Netra Klinik Spesialis Mata – Bandung, RS Khusus Mata Prov. Sumatera Selatan, Sumatera Eye Center. **Israel:** The Medical Research, Infrastructure, and Health Services Fund of the Tel-Aviv Medical Center. **Kenya:** City Eye Hospital, Eldo Eye Clinic, Lighthouse for Christ Eye Center. **Kuwait:** Kuwait Specialized Eye Center. **Mexico:** Asociación para Evitar la Ceguera en México, Fundación Hospital Nuestra Señora de la Luz IAP, Instituto Mexicano de Oftalmología IAP, Sala Uno Ophthalmological Center. **Nigeria:** Department of Ophthalmology, Department of Ophthalmology University of Uyo Teaching Hospital, Uyo, MDR - Lighthouse Medical Eye and Specialist Laser Center Lokoja, Department of Ophthalmology, Jos University Teaching Hospital, Jos, Eye Clinic, Department of Ophthalmology, Faculty of Clinical Sciences, Ahmadu Bello University Zaria, University College Hospital Ibadan, Eye Foundation Hospital. **Portugal**: ALM – Oftamologia Médica e Cirúrgica, Centro Hospitalar de Setúbal, Centro Hospitalar e Universitário de Coimbra, Centro Hospitalar Universitário do Porto. **Russia:** National Medical and Surgical Center N.I. Pirogov, Ufa Research Institute of Eye Diseases, S. Fyodorov Eye Microsurgery Federal State Institution (Orenburg branch), Novosibirsk State Region Clinic Hospital. **Saudi Arabia:** King Abdulaziz Medical City. **Switzerland:** Swiss Visio Montchoisi. **Turkey:** Hacettepe University, Ankara City Hospital, Gaziantep University, Karadeniz Technical University Faculty of Medicine. **United Arab Emirates:** Medcare Eye Center, Moorfields Hospital Abu Dhabi.

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