

Assessing the Strength of Clinical Practice Guidelines for Managing Neovascular Age-Related Macular Degeneration – A Systematic Literature Review

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Disclosures

Financial Disclosures

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Study and Product Disclosures

- ▶ This SLR was conducted in accordance with the guidelines established in the Cochrane Handbook for Systematic Reviews of Interventions¹ and reporting followed the methodology of the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA)²
- ▶ This study is a summary of published peer-reviewed literature and did not involve direct patient care. Informed consent was not required due to the nature of the study
- ▶ PROSPERO number: CRD42023473223
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Introduction

Ophthalmology **CPGs** for nAMD vary in terms of **diagnosis and management recommendations**



Variability among CPGs could lead to differences in the **quality of care** patients receive across care settings/regions

Payors often base formulary management decisions on primary endpoints from RCTs; BUT the primary endpoint for most RCTs is **VA**, whereas **OCT** (a key secondary endpoint) is considered more objective in real-world practice



Both VA and OCT are used clinically for treatment decisions, but formulary management based on RCT VA alone may adversely impact provider choice

Study Aims

- ▶ A systematic literature review was conducted to:

Identify CPGs and consensus statements on the diagnosis, treatment, and disease monitoring of adults with nAMD



Assess the strength of recommendations for OCT and VA measurement



Assess the quality of the methods and the rigor of nAMD CPG development

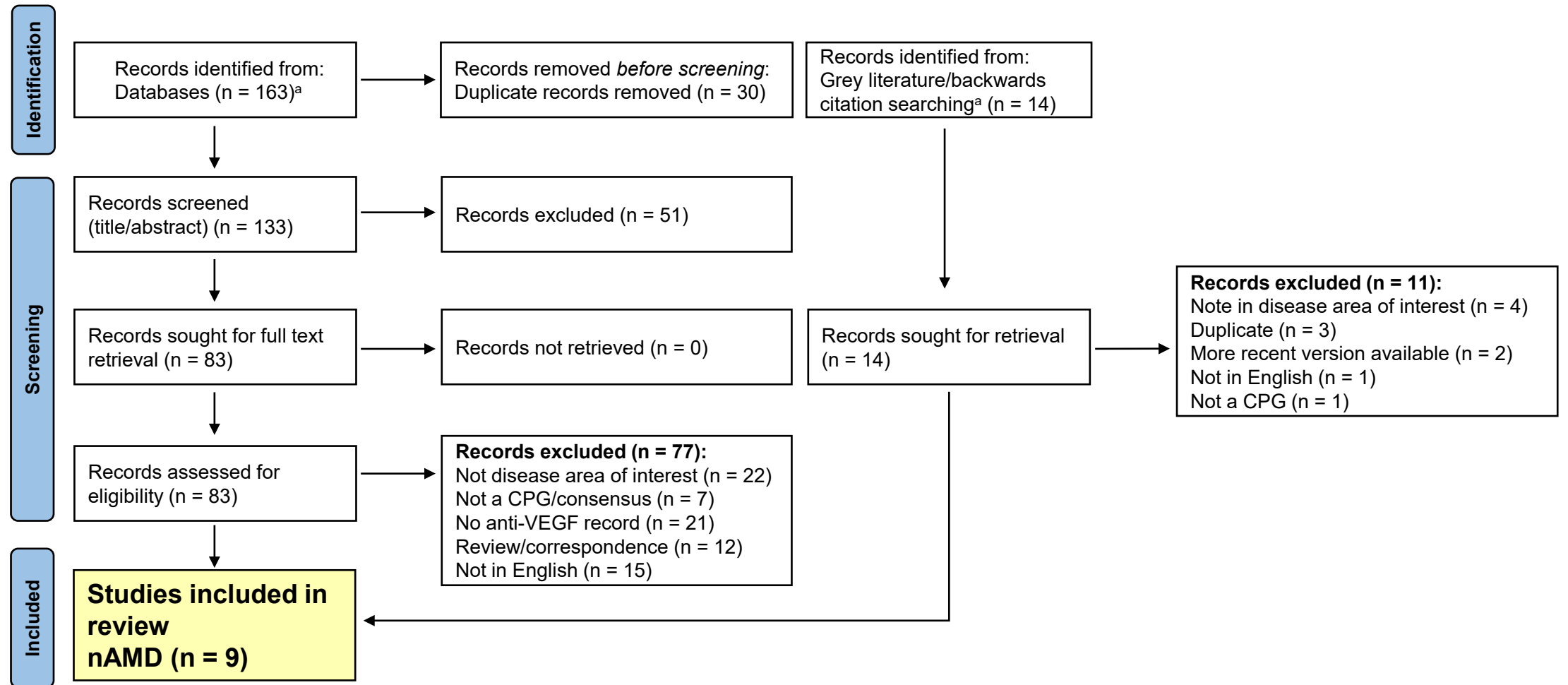
Methods

- ▶ Embase and Medline databases were systematically searched (January 2010–October 2023) to identify nAMD CPGs/consensus statements
- ▶ PICOS criteria were applied to CPGs that were reviewed by 2 independent researchers
- ▶ CPG quality was assessed by 4 reviewers using the **AGREE II** tool^{1–3}
 - Evaluates 6 domains using 23 criteria
 - Each item is rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree)
 - The sum of the scores in each domain are expressed as a percentage of the maximum possible score

Score	0–30%	31–70%	> 71%
CPG quality	Low	Moderate	High

AGREE II Domains
Scope and purpose
Stakeholder involvement
Rigor of development
Clarity of presentation
Applicability
Editorial independence

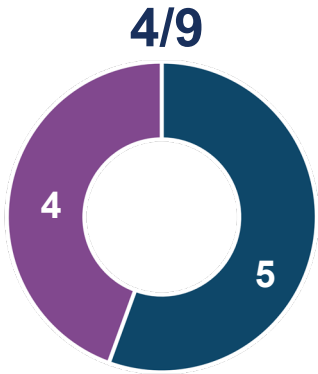
9 CPGs Were Identified for nAMD (2012–2022)



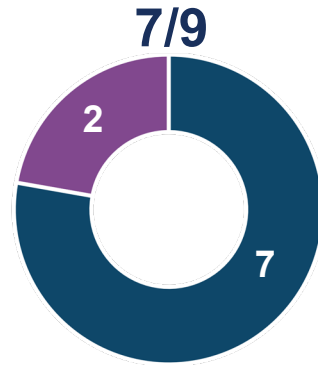
^a Initial literature search identified publications in DME, nAMD, DR, and RVO.

CPG, clinical practice guideline; DME, diabetic macular edema; DR, diabetic retinopathy; nAMD, neovascular age-related macular degeneration; RVO, retinal vein occlusion; VEGF, vascular endothelial growth factor.

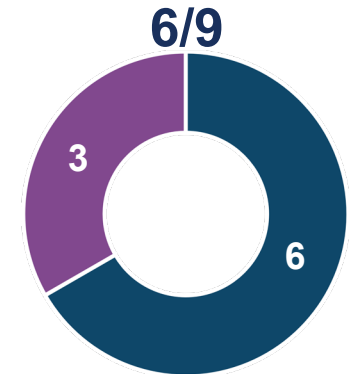
nAMD CPG Characteristics Identified from Systemic Literature Review



...published since 2020

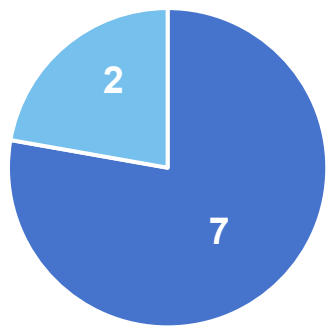


...developed by professional societies/health ministries



... performed a literature review

Developed by:



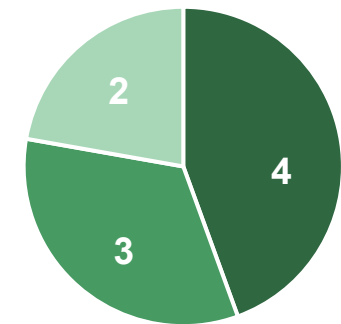
■ Ophthalmologists
 ■ Retina specialists

Consensus Method:



■ Expert consensus
 ■ Anonymous voting
 ■ NR
 ■ NICE

Region/Country Developed From:



■ Europe/UK
 ■ Asia-Pacific
 ■ North America

Quality appraisals of CPGs were highest in Scope, Clarity and Independence; lowest in rigor

- ▶ **AGREE II scores** ranged from 62–95 (mean [SD] score, 74.5 [10.6])
- ▶ **CPG strengths:** Scope and purpose, clarity, and editorial independence
- ▶ **CPG weaknesses:** Rigor of development, stakeholder involvement, and applicability
- ▶ 4/9 CPGs were “R”
- ▶ 5/9 CPGs were “RM”

Citation	AGREE Domain Scores (%)						Overall Quality	Overall AGREE II
	Scope and Purpose	Stakeholder Involvement	Rigor of Development	Clarity of Presentation	Applicability	Editorial Independence		
Androudi et al ¹	85	50	26	74	68	96	62	RM
Chaikitmongkol et al ²	85	57	70	86	78	63	77	R
Cheng et al ³	86	49	30	83	70	92	65	RM
Cruess et al ⁴	93	65	44	83	74	94	73	RM
Flaxel et al ⁵	90	63	88	57	48	100	79	R
NICE et al ⁶	97	97	96	99	95	63	95	R
Schmidt-Erfurth et al ⁷	81	50	38	88	68	96	67	RM
Tuuminen et al ⁸	100	83	69	100	81	100	86	R
Yeung et al ⁹	63	57	38	89	70	92	65	RM
Overall mean (SD)	86.6 (11.0)	63.4 (16.6)	55.4 (25.9)	84.3 (13.0)	73.0 (12.6)	89.1 (15.4)	74.5 (10.6)	

Domain scores were rounded. Blue = high quality (>71%); pink = moderate quality (31-70%); purple = low quality (<30%).

1. Androudi S et al. *Adv Ther.* 2016;33:715-726. 2. Chaikitmongkol V et al. *Asia Pac J Ophthalmol (Phila).* 2021;10:507-518. 3. Cheng CK et al. *BMC Ophthalmol.* 2022;22:25. 4. Cruess AF et al. *Can J Ophthalmol.* 2012;47:227-235. 5. Flaxel CJ et al. *Ophthalmol.* 2020;127:P1-P65. 6. NICE 2018. Accessed April 24, 2024. <https://www.nice.org.uk/guidance/ng82>; 7. Schmidt-Erfurth U et al. *Br J Ophthalmol.* 2014;98:1144-1167. 8. Tuuminen R et al. *Acta Ophthalmol.* 2017;95:1-9. 9. Yeung L et al. *J Formos Med Assoc.* 2021;120:2061-2071. AGREE II, Appraisal of Guidelines for Research and Evaluation II; CPG, clinical practice guideline; NR, do not recommend; R, recommend; RM, recommend with modifications; SD, standard deviation.

CPGs Recommended OCT for initial diagnosis and response to anti-VEGF therapy

For nAMD diagnosis^{1,5-8}

- ▶ All CPGs recommended OCT
- ▶ 7/9 recommended VA

For managing anti-VEGF therapy⁴⁻⁹

- ▶ 3/9 CPGs recommended OCT
- ▶ 4/9 recommended VA

For disease monitoring of patients on anti-VEGF therapy^{5,6,8}

- ▶ 8/9 CPGs recommended either VA or OCT

For changing anti-VEGF treatment intervals based on treatment response^{2,3}

- ▶ 6/9 CPGs recommended VA
- ▶ 7/9 recommended OCT

Citation	Screening Recommendations							
	Initial Diagnosis		Initial Disease Management ^a		Response to Anti-VEGF ^b		Anti-VEGF Interval Change	
	VA	OCT	VA	OCT	VA	OCT	VA	OCT
Androudi et al ¹	R	R	NM	NM	R	R	R	R
Chaikitmongkol et al ²	NM	R	NM	NM	R	R	R	R
Cheng et al ³	R	R	NM	NM	R	R	R	R
Cruess et al ⁴	NM	R	NM	NM	R	R	NM	R
Flaxel et al ⁵	R	R	R	R	R	O	NM	NM
NICE et al ⁶	R	R	R	NM	O	R	NM	NM
Schmidt-Erfurth et al ⁷	R	R	R	R	R	R	R	R
Tuuminen et al ⁸	R	R	NM	NM	R	R	R	R
Yeung et al ⁹	R	R	R	R	R	R	R	R

■ R ■ O ■ NM

^a Management of initial pharmacologic intervention. ^b Screening to assess disease progression. 1. Androudi S et al. *Adv Ther.* 2016;33:715-726. 2. Chaikitmongkol V et al. *Asia Pac J Ophthalmol (Phila).* 2021;10:507-518. 3. Cheng CK et al. *BMC Ophthalmol.* 2022;22:25.

4. Cruess AF et al. *Can J Ophthalmol.* 2012;47:227-235. 5. Flaxel CJ et al. *Ophthalmol.* 2020;127:P1-P65. 6. NICE 2018. Accessed April 24, 2024. <https://www.nice.org.uk/guidance/ng82>; 7. Schmidt-Erfurth U et al. *Br J Ophthalmol.* 2014;98:1144-1167.

8. Tuuminen R et al. *Acta Ophthalmol.* 2017;95:1-9. 9. Yeung L et al. *J Formos Med Assoc.* 2021;120:2061-2071.

CPG, clinical practice guideline; nAMD, neovascular age-related macular degeneration; NM, not mentioned; O, optional; OCT, optical coherence tomography; R, recommend; VA, visual acuity; VEGF, vascular endothelial growth factor.

Conclusions

- ▶ There is **strong alignment** among global CPGs on the necessity of **OCT** and **VA** for the management of nAMD
- ▶ Identified CPGs were strongest in **scope and purpose** and **clarity of presentation** domains
- ▶ The AGREE II tool highlighted several areas where future CPGs could be improved
 - More rigorous methods of development
 - Clear guidance on applicability in resource-constrained systems
 - Patient perspectives should be incorporated into future CPGs to further strengthen their utility for providers