

An appraisal of clinical practice guidelines for diabetic retinopathy

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BACKGROUND

Diabetic retinopathy is the leading cause of blindness among young and middle aged adults with a worldwide prevalence of 160 million.¹ However, recent studies evaluating the trustworthiness of clinical practice guidelines (CPGs) have revealed conflicting recommendations, discrepancies in evidence quality, a lack of methodological rigor and transparency, and potential conflicts of interest among members of guideline development groups.²⁻⁵ These findings undermine the validity of CPGs, limiting their usefulness as evidence-based resources for clinicians.^{3,6}

PURPOSE

To use a validated tool, the Appraisal of Guidelines for Research and Evaluation (AGREE) II, to compare the quality of three CPGs for the management of diabetic retinopathy:

- American Academy of Ophthalmology (AAO)
2012 Diabetic Retinopathy Preferred Practice Patterns
- Canadian Ophthalmological Society (COS)
2012 Evidence-Based Clinical Practice Guidelines for the management of diabetic retinopathy
- Royal College of Ophthalmologists (RCO)
2012 Diabetic Retinopathy Guidelines

METHODS

Four evaluators (CMW, AMW, BKY, DW) independently analyzed the three diabetic retinopathy CPGs using AGREE II. The assessment covered all six AGREE II domains and included an Overall Assessment to summarize guideline quality across all domains. The grading was based on a seven-point scale with a score of seven indicating 100% adherence.

RESULTS

Scaled scores ranged from 35% to 78% (AAO); 60% to 92% (COS); and 35% to 82% (RCO). Intraclass correlation coefficients for the reliability of mean scores were 0.78, 0.78, and 0.79, respectively. The strongest domains were Scope and Purpose and Clarity of Presentation (COS). The weakest were Stakeholder Involvement (AAO), Rigor of Development (AAO, RCO), Applicability, and Editorial Independence (RCO).

Table 1. Comparison of AGREE II scaled scores of the AAO, COS, and RCO diabetic retinopathy CPGs.

AGREE II Domain	AAO scaled score	COS scaled score	RCO scaled score
1. Scope and Purpose	78%	92%	82%
2. Stakeholder Involvement	35%	61%	56%
3. Rigor of Development	48%	68%	49%
4. Clarity of Presentation	68%	92%	71%
5. Applicability	66%	60%	67%
6. Editorial Independence	67%	73%	35%
Overall Assessment	4.5/7	5.5/7	4.5/7

Table 2. Recommendations for improvement of CPGs, noting any existing models from the reviewed diabetic retinopathy CPGs.

Primary Recommendations	Existing Models	Additional Recommendations	Existing Models
Stakeholder involvement – Clarify how any feedback gathered from patients shaped recommendations	None	Improve formatting to clearly highlight recommendations throughout main text (e.g. with numbered headings)	COS
Transparency of CPG development process – Clearly state roles of each CPG development member and delineate methods of CPG development and review Clarify evidence search methods to include detailed search terms, dates, and discussion of inclusion criteria	None	Provide a summary of major recommendations	AAO
Applicability – Include summary documents of the key recommendations, algorithms, and surgical checklists	None	Address facilitators and barriers to application by discussing economic factors of guideline implementation	AAO, RCO
Editorial independence – Disclose methods by which conflicts of interest (COIs) were sought and how any COIs influenced recommendation formulation	None	Ensure and disclose independence of the CPG development group from potential influences of the funding body	AAO, COS

CONCLUSIONS

Diabetic retinopathy practice guidelines can be improved by targeting stakeholder involvement, rigor of development, applicability, and editorial independence. We formulated several recommendations for the targeted improvement of adult diabetic retinopathy CPGs, using models from the reviewed CPGs when possible (Table 2). Our assessment of CPGs using the AGREE II underscores the importance of regular evaluation of CPGs to optimize patient care.

Moving forward, we can examine strategies to improve the applicability of CPGs by integrating the best models from various CPGs with feedback from clinicians and patients.

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