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REVIEWER'S REPORT

Manuscript No.: **IJAR-57856**

Title: Interface Design, Attention, and Overreliance in Clinical XAI.

Recommendation:
Accept as it is .....
Accept after minor revision...✓.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance		✓		

Reviewer's ID: JPR- **098**

Detailed Reviewer's Report

Decision: Accept after Minor Revision

Summary:

The manuscript presents a **conceptual review and framework (Attention-Gated XAI)** for reducing clinician overreliance on AI recommendations in healthcare. It emphasizes interface design, attention mechanisms, risk-stratified cognitive friction, trust calibration, and governance requirements for safe deployment of Explainable AI (XAI) in clinical decision support systems.

Strengths:

- Addresses a highly relevant and emerging topic in **clinical AI safety and explainability**.
- Proposes a novel **Attention-Gated XAI framework** with clearly defined components and practical implementation pathways.
- Strong interdisciplinary integration of human factors, cognitive psychology, clinical decision-making, and AI governance.
- Provides actionable design recommendations, reporting standards, and evaluation protocols for clinician-facing AI systems.

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- Well-supported by recent and relevant literature from clinical AI, HCI, and XAI domains.

Major Issues:

- The manuscript is primarily **conceptual and narrative**, lacking empirical validation of the proposed framework.
- No user studies, simulations, experiments, or clinical evaluations are conducted to demonstrate the effectiveness of Attention-Gated XAI.
- The review methodology is not fully systematic; inclusion/exclusion criteria, database coverage, and study selection procedures are not comprehensively described.
- Several recommendations remain theoretical and require validation in real-world clinical settings.
- Quantitative comparison with existing XAI frameworks and interface-design models is limited.

Minor Issues:

- Some sections are repetitive, particularly regarding trust calibration, overreliance, and cognitive friction.
- Several tables could be consolidated to improve readability.
- A graphical illustration of the complete Attention-Gated XAI workflow would strengthen presentation.
- Minor grammatical and formatting inconsistencies require proofreading.
- Discussion of implementation challenges, costs, and deployment feasibility could be expanded.

Final Comment:

The manuscript provides a valuable and timely contribution to the discussion of **safe and human-centered clinical XAI design**. The proposed Attention-Gated XAI framework is conceptually strong and practically relevant. However, the work would benefit from stronger methodological rigor and future empirical validation. With minor revisions focused on presentation, methodological clarity, and discussion enhancements, the manuscript would be suitable for publication.