

Questionnaire 1: Delphi Expert Questionnaire

Title: Questionnaire on Core AI Application Modules and Ethical Risks in Medical Quality Assessment and Hospital Accreditation

Dear Expert,

This questionnaire adopts the Delphi method to gather industry consensus, clarify core AI application modules and key ethical risks within medical quality assessment and hospital accreditation, and evaluate the rationality of AI implementation pathways and ethical governance frameworks. Please fill in the form truthfully based on your professional experience (approximately 3 minutes required). We greatly appreciate your academic support!

Section 1: Basic Expert Information

1) Total years of working experience [Single choice]

- ☐ Less than 5 years
- ☐ 5–10 years
- ☐ 10–20 years
- ☐ 20–30 years
- ☐ Over 30 years

2) Years of experience in medical quality assessment and hospital accreditation [Single choice]

- ☐ Less than 5 years
- ☐ 5–10 years
- ☐ 10–20 years
- ☐ 20–30 years
- ☐ Over 30 years

3) Familiarity with AI-enabled medical quality assessment & hospital accreditation [Single choice]

- ☐ Extremely familiar
- ☐ Relatively familiar
- ☐ Moderately familiar
- ☐ Slightly unfamiliar
- ☐ Completely unfamiliar

Section 2: Importance of AI Modules & Rationality of Implementation Pathways

4) Please rate the importance of the following AI functions (1 = Extremely unimportant; 2 = Unimportant; 3 = Neutral; 4 = Important; 5 = Extremely important) [Matrix scale]

| Item | Extremely unimportant | Unimportant | Neutral | Important | Extremely important |

| ---- | ---- | ---- | ---- | ---- | ---- |

| Intelligent collection and standardized processing of medical quality indicators | ☐ | ☐ | ☐ | ☐ | ☐ |

☐ | ☐ |

| Intelligent interpretation and dynamic matching of international accreditation standards |
☐ | ☐ | ☐ | ☐ | ☐ |
 | Real-time early warning of quality risks (adverse events & compliance defects) | ☐ | ☐ | ☐ |
☐ | ☐ |
 | Automatic sorting, review and omission checking of accreditation supporting documents |
☐ | ☐ | ☐ | ☐ | ☐ |
 | Fusion analysis of multi-source data (clinical, quality control, administrative data) | ☐ | ☐ |
☐ | ☐ | ☐ |
 | Intelligent generation of accreditation reports with optimization suggestions | ☐ | ☐ | ☐ | ☐ |
☐ |
 | Automatic screening of ethical risks (data privacy, algorithmic bias) | ☐ | ☐ | ☐ | ☐ | ☐ |

5) If you have additional AI modules to propose, please state and rate their importance (1 = Extremely unimportant; 2 = Unimportant; 3 = Neutral; 4 = Important; 5 = Extremely important) [Open-ended]

6) Please rate the rationality of the following phased AI implementation pathways (1 = Extremely unreasonable; 2 = Unreasonable; 3 = Neutral; 4 = Reasonable; 5 = Extremely reasonable) [Matrix scale]

Item	Extremely unreasonable	Unreasonable	Neutral	Reasonable	Extremely reasonable
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1. Data layer: Establish unified data interface standards to enable cross-system data interoperability	☐	☐	☐	☐	☐
2. Technology layer: Develop transparent algorithms with high result explainability	☐	☐	☐	☐	☐
3. Application layer: Pilot core modules (indicator collection, risk warning) before full-scale rollout	☐	☐	☐	☐	☐
4. Accreditation layer: Build a human-machine collaborative model of "AI preliminary screening + expert review"	☐	☐	☐	☐	☐

7) Please provide supplementary or revised suggestions on the above AI implementation pathways [Open-ended]

Section 3: Prioritization of Ethical Risks & Evaluation of Ethical Governance Framework

8) Rank the following ethical risks by priority (fill in serial numbers in brackets). Add unlisted key risks if necessary [Ranking question]

- [] Privacy leakage of sensitive patient/hospital data
- [] Unfair hospital evaluation caused by algorithmic bias across tiers or regions
- [] Ambiguous accountability for quality incidents triggered by erroneous AI decisions
- [] Diminished manual auditing and professional judgment due to over-reliance on AI
- [] Monopolization or uncontrolled scope of data usage by technology vendors or platforms
- [] Opaque algorithm models lacking traceability and regulatory oversight

- ☐ Cultural or policy mismatches when adapting AI to international accreditation standards
- ☐ Others (please specify risk name and corresponding ranking)

9) Please evaluate the completeness and feasibility of the following ethical governance framework (1 = Extremely infeasible; 2 = Infeasible; 3 = Neutral; 4 = Feasible; 5 = Extremely feasible) [Matrix scale]

Item	Extremely infeasible	Infeasible	Neutral	Feasible	Extremely feasible
1. Core principles: Transparency, fairness, accountability, privacy protection	☐	☐	☐	☐	☐
2. Full-process ethical review covering AI development, deployment and accreditation application	☐	☐	☐	☐	☐
3. Clear responsibility allocation: Hospitals (data management), tech vendors (algorithm compliance), accreditation bodies (supervision & evaluation)	☐	☐	☐	☐	☐
4. Dynamic monitoring mechanism for AI performance and ethical risks	☐	☐	☐	☐	☐

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4. Dynamic monitoring mechanism for AI performance and ethical risks

10) Please provide supplementary or revised suggestions on the above ethical governance framework [Open-ended]

11) Please list core unaddressed issues requiring attention for AI application in medical quality assessment and hospital accreditation [Open-ended]