Regal Quality Solutions™

Future-Proofing Healthcare Quality

PRISM-EQ™

A Governance-First Framework for Equitable, Audit-Ready AI in Healthcare

White Paper

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Author: Charmaine Rose, RN, BSN, MBA-Healthcare, CPHQ

Founder and CEO, Regal Quality Solutions™

RegalQS.com

PRISM-EQ™: A Governance-First Framework for Equitable, Audit-Ready AI in Healthcare

Executive Summary

Healthcare organizations are rapidly adopting artificial intelligence across clinical, operational, and administrative workflows. These technologies offer opportunities to improve efficiency, decision support, and operational insight, but they also introduce new risks related to patient safety, equity, regulatory compliance, and organizational accountability. Many existing compliance and quality improvement models rely on retrospective review, siloed audits, and episodic survey preparation. These approaches are not designed to govern continuously learning or frequently updated AI-enabled systems.

PRISM-EQ™ (Proactive Regulatory Intelligence and Safety Monitoring for Equitable Quality) is a governance-first framework developed by Regal Quality Solutions™ to address this gap. Rather than treating AI as a standalone technology problem, PRISM-EQ reframes AI oversight as a core quality, safety, and leadership responsibility that can be embedded into existing hospital governance structures. The framework emphasizes accountability, transparency, equity, and continuous learning while maintaining clear boundaries around clinical judgment and operational decision-making.

This white paper presents PRISM-EQ as a conceptual framework aligned with established healthcare expectations, including CMS Quality Assessment and Performance Improvement requirements, Joint Commission Leadership and Performance Improvement standards, AHRQ safety science, and emerging AI governance guidance such as the NIST AI Risk Management Framework, ISO/IEC 42001, ONC transparency requirements, and FDA lifecycle oversight concepts. PRISM-EQ is not a software product or prescriptive implementation methodology. It is intended to support healthcare leaders in governing AI responsibly while remaining audit-ready and equity-focused.

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Background and Rationale

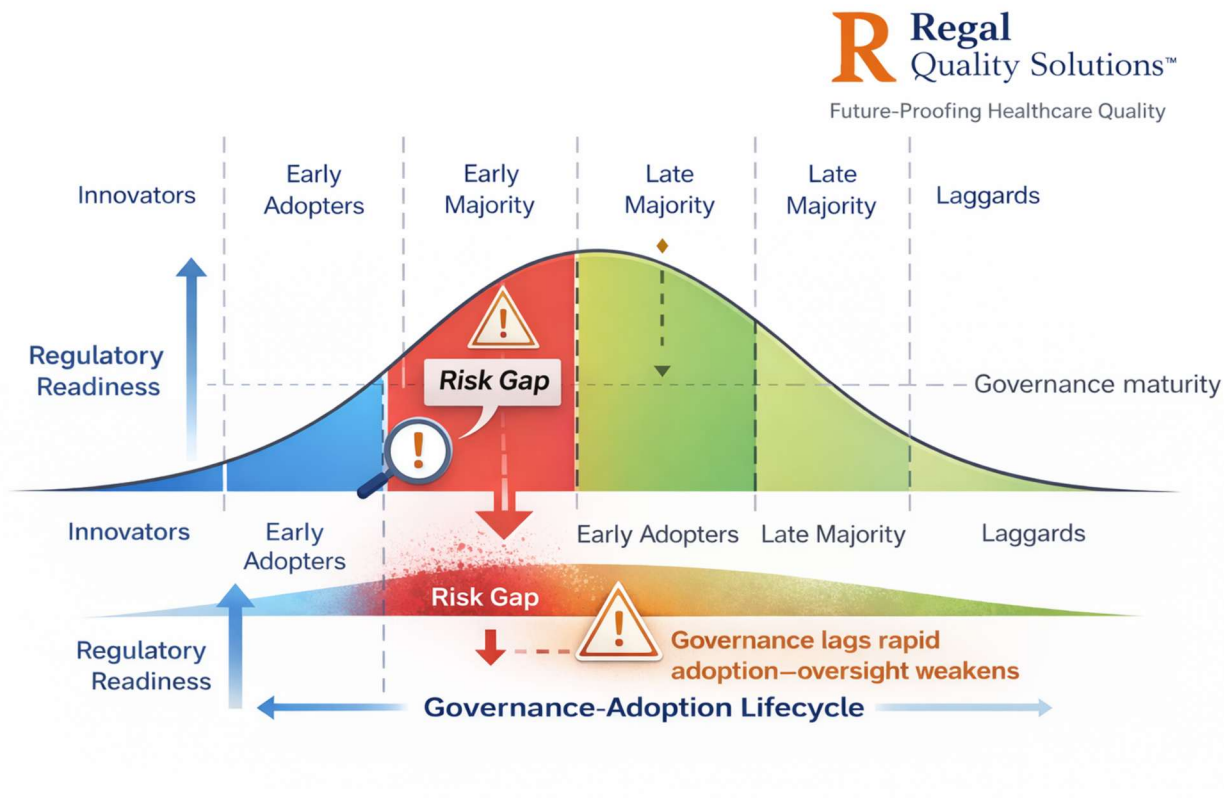

Figure 1. Governance Risk Accumulation Across the AI Adoption Lifecycle. Conceptual illustration adapting adoption-stage terminology from diffusion of innovation theory (Rogers) and technology adoption literature (Moore) to highlight governance and regulatory risk in healthcare AI deployment. This figure is illustrative and does not represent empirical measurements.

Healthcare regulation and accreditation frameworks have long emphasized leadership accountability, systematic performance improvement, and patient safety. As AI-enabled tools become embedded in workflows, these expectations increasingly apply to algorithmic systems as well. However, many organizations lack a coherent governance model that connects AI oversight with existing quality and regulatory structures.

Legacy compliance approaches often focus on documentation prepared in anticipation of surveys rather than on continuous oversight embedded in daily work. In the context of AI, this creates risk. Algorithms may change over time, perform differently across populations, or influence clinical workflows in unintended ways. Without clear governance, organizations may struggle to demonstrate accountability, equity monitoring, and safety oversight to regulators, surveyors, clinicians, and governing bodies.

PRISM-EQ was developed to translate established regulatory and safety principles into a practical governance framework that supports continuous readiness. It draws on existing

public standards and guidance, synthesizing them into an integrated model tailored to healthcare operations.

The PRISM-EQ Framework

Governance and Accountability

PRISM-EQ establishes clear governance structures that define ownership, decision authority, and accountability for AI use. Organizations designate leadership councils or committees responsible for approving AI use cases, defining intended purposes, and maintaining decision logs. This ensures that AI oversight is aligned with existing quality and leadership responsibilities.

Surveillance and Signals

Rather than relying solely on retrospective audits, PRISM-EQ emphasizes proactive monitoring of safety, performance, and equity signals. These signals may include trends in outcomes, workflow disruptions, or disparities across subgroups. Surveillance supports early identification of potential risks and timely governance review.

Evidence and Transparency

Transparency is essential for trust and accountability. PRISM-EQ encourages the use of clear documentation, version histories, and plain-language descriptions of AI systems. These artifacts support clinician understanding, leadership oversight, and audit readiness.

Workflow Integration

Governance activities are integrated into routine workflows rather than treated as separate compliance tasks. Oversight occurs as work is performed, reducing reliance on after-the-fact documentation and supporting sustainable governance practices.

Equity and Ethics

Equity considerations are embedded throughout PRISM-EQ. Organizations monitor AI performance across relevant subgroups and document mitigation efforts when disparities are identified. Equity is treated as a core quality responsibility rather than an optional analysis.

Learning and Resilience

PRISM-EQ supports continuous learning through regular review cycles, feedback loops, and governance reflection. Organizations adapt oversight practices as technologies, workflows, and regulatory expectations evolve.

Illustrative Applications

The following examples are illustrative and conceptual. They do not represent measured outcomes or real patient data. They demonstrate how PRISM-EQ principles may be applied in common healthcare contexts.

Examples include AI-supported surveillance for clinical deterioration, review of discharge

documentation for potential safety gaps, and monitoring of compliance with regulatory documentation requirements. In each case, PRISM-EQ emphasizes governance oversight, documentation, and human decision-making rather than automated clinical action.

Positioning and Use

PRISM-EQ is intended to support education, governance literacy, and leadership decision-making. It does not replace professional judgment, clinical expertise, or institutional accountability. Organizations may adapt the framework to their size, resources, and risk profile while maintaining alignment with regulatory and safety expectations.

How to Cite PRISM-EQ

PRISM-EQ™ (Proactive Regulatory Intelligence and Safety Monitoring for Equitable Quality) is an original governance framework developed by Regal Quality Solutions™. When referencing or citing this framework, please use the following format:

Rose, C. PRISM-EQ™: A Governance-First Framework for Equitable, Audit-Ready AI in Healthcare. Regal Quality Solutions™, New York, NY.

PRISM-EQ™ is intended for educational and governance-literacy purposes. It does not constitute clinical guidance, operational instruction, or regulatory advice, and it does not replace professional judgment or institutional accountability.

Transparency and AI Assistance

Generative AI tools were used to support drafting and editing. The author reviewed, validated, and takes full responsibility for the content, framework design, and interpretations presented in this white paper.

References

- National Institute of Standards and Technology. *Artificial Intelligence Risk Management Framework (AI RMF 1.0).*
- International Organization for Standardization. *ISO/IEC 42001: Artificial Intelligence Management System.*
- Rogers, E. M. *Diffusion of Innovations.* 5th ed. New York: Free Press, 2003.
- Centers for Medicare and Medicaid Services. *Quality Assessment and Performance Improvement (QAPI) Requirements.*
- The Joint Commission. *Leadership (LD) and Performance Improvement (PI) Standards.*
- Agency for Healthcare Research and Quality. *Patient Safety and Common Formats Resources.*
- U.S. Food and Drug Administration. *Predetermined Change Control Plan Guidance for AI-Enabled Device Software Functions.*