

# Cover Letter for JMIR Medical Informatics Submission

**Date:** January 2026

**To:** Editor-in-Chief, JMIR Medical Informatics

**Re:** Manuscript Submission - Review Article

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Dear Editor,

I am pleased to submit the manuscript titled “**Healthcare Analytics Challenges: A Three-Pillar Framework Connecting Analytics Maturity, Workforce Agility, and Technical Enablement**” for consideration as a Review article in JMIR Medical Informatics. The manuscript consists of 2,348 words (main text) and includes 139 verified citations.

## Manuscript Statistics

- **Total Word Count:** 2,632 words (including all frontmatter and references)
- **Main Text Word Count:** 2,348 words (Abstract through Conclusion)
- **Total Citations:** 139 verified references
- **Illustrations:** 3 figures (PRISMA flow, System Architecture, and Validated Query Cycle)

## Background and Significance

Healthcare organizations face three interconnected challenges that create a compounding cycle threatening data-driven transformation: low analytics maturity (only 39 organizations globally have achieved HIMSS AMAM Stage 6-7), systemic workforce instability (53% CIO turnover within three years), and technical barriers in natural language to SQL generation. This review identifies a critical gap in the literature: while single-domain studies exist for each challenge, few analyze how they interconnect to create institutional memory loss.

## Methodology

This narrative review synthesizes evidence across clinical informatics, human resources, and natural language processing. We identified literature from Crossref, PubMed, arXiv, and Semantic Scholar (n=570), with a final corpus of 135 sources. Grey literature was assessed using the AACODS checklist to ensure rigor. Evidence was integrated through an original three-pillar analytical framework examining how these challenges interconnect and compound each other.

## **Principal Findings**

The review contributes an original three-pillar analytical framework revealing a self-reinforcing cycle: (1) **Analytics Maturity**: Low maturity traps organizations in reactive cycles; (2) **Workforce Agility**: Turnover exceeds other sectors, causing loss of “tacit knowledge”; and (3) **Technical Enablement**: Technical barriers block the capture of expertise. We illustrate how this cycle can be broken through a **Validated Query Cycle**, a governance forcing function that transforms analytical logic into durable software assets, ensuring institutional memory persists independent of staff tenure.

## **Conflicts of Interest**

The author declares competing interests: Samuel T Harrold is a contract product advisor at Yuimedi, Inc., which develops healthcare analytics software, and is employed as a Data Scientist at Indiana University Health. This paper presents an analytical framework derived from published literature and does not evaluate or recommend specific commercial products.

## **Generative AI Disclosure**

Gemini CLI (Gemini 3, Google) assisted with manuscript editing and refinement. The author takes full responsibility for the final content.

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## **Article Processing Fee**

I acknowledge the applicable article processing fee (APF) if this manuscript is accepted after peer review.

## **Transfer Preference**

If this manuscript is not suitable for JMIR Medical Informatics, I would welcome consideration for transfer to JMIR AI or JMIR Formative Research.

Thank you for considering this manuscript. I believe it will be of significant interest to JMIR Medical Informatics readers working in healthcare informatics, clinical decision support, and healthcare analytics.

Sincerely,

Samuel T Harrold

Yuimedi, Inc.