HEALTHCARE INNOVATION AND TECHNOLOGY LAB (HITLAB)

Visolyr® Agentic Adaptive Intelligence: Clinical AI for Cardiometabolic Health

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ABSTRACT

Chronic diseases like diabetes, hypertension, and heart disease affect **over 133M Americans**, driving more than **$780B** in annual spending. Clinicians face fragmented data, documentation overload, and delayed insights — challenges that reduce efficiency and obstruct timely intervention.

Visolyr® is an AI-enabled clinical navigator powered by **Agentic Adaptive Intelligence™** that synthesizes multimodal data — EMR inputs, labs, SDoH, and imaging — to detect early disease risk and surface **actionable guidance in real time**. The platform reduces manual documentation, improves decision support, and helps clinicians act sooner to prevent avoidable complications.

HITLAB evaluated Visolyr's design, clinical utility, and workflow alignment using Nielsen's usability heuristics and expert review. Findings show strong potential to **reduce clinician burden**, **strengthen population health management**, and **improve cardiometabolic outcomes** through proactive care navigation.

OBJECTIVES

- Evaluate usability and workflow alignment in clinical environments.
- Assess platform capabilities across chronic condition management.
- Identify system refinements for enhanced safety + adaptability.
- Validate potential to reduce documentation time & inform early intervention.

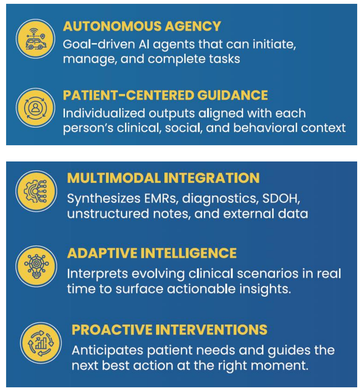
STUDY METHODOLOGY

- **Framework**: Jakob Nielsen's 10 Usability Heuristics.
- **Evaluation**: Multi-day system interaction on Mac & Windows.
- **Persona**: Internal Medicine physician managing 20–25 chronic cases daily.
- **Modules Assessed:** Patient snapshot, personalized care plans, treatment recommendations, longitudinal chart, and Care plan chat support.

Visolyr: A Next-Generation Clinical Navigator

Visolyr® transforms complex patient data into real-time, personalized insights for proactive cardiometabolic disease management.

AI Agent	Key Capabilities
Patient Snapshot	Provides automated summaries and actionable treatment insights for individual patients.
Cardiometabolic Health Navigator	Surfaces early risk signals, guides targeted interventions, and improves adherence, enabling clinicians to prevent complications and deliver more effective, proactive care
Population Health Dashboard	Consolidates diverse data sources to identify at-risk groups, engage patients with targeted outreach, and enhance outcomes for rural and underserved populations.
Patient Safety Intelligence	Detects adverse events automatically, integrates FAERS in real time, delivers explainable insights, and improves safety, oversight, and medication management
AI Image Analysis for Diabetic Retinopathy	Detects diabetic retinopathy and early microvascular, neurological, and systemic disease, enabling proactive care, explainable insights, personalized recommendations, improved outcomes, and reduced preventable vision loss
MASLD Screening Agent	Automates FIB-4 scoring, normalizes diagnoses, detects key metabolic risks, and delivers evidence-based guidance to enable earlier intervention, clearer decisions, and improved outcomes across populations.



Strategic Partners

NVIDIA Inception Program
Microsoft AI Cloud Partner
OpenAI

Visolyr leverages advanced AI and LLM integration for **AI Diagnostics & Personalized Treatment**, streamlining patient care with **Optimized Patient Journeys** and **Comprehensive Medication Management**. It acts as a **Trusted Clinical Navigator** by providing clear data attribution and reducing administrative burden, ultimately enhancing decision-making and improving outcomes through efficient, smart care plans.

RESULTS

Following modules of the Visolyr platform were evaluated:

Patient Snapshot : high-level summaries of patient history (Consolidates medical history, vitals, and progress metrics for comprehensive overview)

Personalized Care Plans :suggestions for lifestyle and dietary modifications (AI-generated lifestyle and treatment guidance tailored to patient needs)

Treatment Recommendations : concise summaries of treatments and medications (evidence-based suggestions from EHR data and AI-powered clinical insights)

Longitudinal Chart: Trends in clinical measurements to support proactive management

Care Plan Co-Pilot : An AI-powered chatbot offering contextual support using large language Models (12-week personalized care plans for cardiac rehab, hypertension, heart failure)

FINDINGS

AI Clinical Reasoning	Real-time adaptive insights based on evolving patient context
Decision Support Quality	Clear differentiation between AI-generated vs. EMR-sourced data
Usability	Scores 2–4 across heuristics → acceptable to strong UX with focused refinements
Workflow Integration	SMART-On-FHIR integration and Athena Health launch readiness
Documentation	Significant reduction in manual note creation and chart review
Proactive Intervention	Earlier identification of rising-risk patients and actionable follow-ups

CLINICAL & FINANCIAL IMPACT

- Fewer cardiometabolic-related hospitalizations
- Prevention of adverse drug reactions via real-time safety detection
- Earlier detection of MASLD reduces downstream fibrosis costs
- Improved adherence through personalized, daily patient guidance
- Strong alignment with value-based care performance metrics

RECENT PLATFORM ENHANCEMENTS

Visolyr has implemented significant advancements to strengthen clinical decision support, usability, and deployment readiness:

✓ Expanded model selection + healthcare-optimized LLMs (Palmyra-Med-70B)
✓ Agentic Adaptive Intelligence™ for continuous real-time reasoning
✓ Updated foundational models (ChatGPT-5, Llama 3.3, Nemotron v1.5)
✓ Resolved navigation + patient context handling issues
✓ New consumer health + EMR launch options
✓ Invited to AHA Center for Health Tech & Innovation
✓ MASLD Screening Agent officially added to platform suite

CONCLUSION

Visolyr offers a practical and timely solution to a major challenge in healthcare today: enabling clinicians to make faster, more informed decisions while reducing the burden of complex documentation.

By automating clinical summaries, generating evidence-based recommendations, and integrating directly within EHR workflows, the platform supports more proactive, data-driven care—particularly for patients with chronic cardiometabolic conditions.

HITLAB's evaluation confirmed strengths across usability, clinical relevance, and system design—demonstrating clear potential to streamline provider workflows and enhance care coordination.

Visolyr's capabilities span multiple clinical needs, including personalized care planning, medication and lifestyle guidance, and timely risk insights powered by explainable AI.

Health systems can leverage the platform to reduce manual data review, ensure clearer treatment rationales, and monitor disease progression with greater accuracy.

With expanding SMART-on-FHIR compatibility and enhanced model performance, Visolyr is evolving into a trusted clinical copilot—helping teams improve efficiency, reduce care variation, and ultimately deliver better outcomes for every patient.

HITLAB HEALTHCARE INNOVATION TECHNOLOGY

VISOLYR

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