

# Quai.MD's Clinical GPS: Future of Emergency Medicine

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## INTRODUCTION

In the U.S. alone, over 145 million emergency department visits occur each year, with nearly 6% resulting in missed diagnoses, particularly for high-risk conditions like stroke, sepsis, or myocardial infarction. Emergency departments and acute-care units operate at the intersection of time pressure, clinical complexity, and incomplete information. That environment creates four interrelated challenges that undermine patient safety, clinician well-being, and system performance: diagnostic error, operational inefficiency and overuse, clinician burnout driven by administrative burden, and wide variation in guideline adherence.

Quai.MD is designed to ensure that every clinician follows evidence-based best practices. It is an AI-powered clinical workflow platform that embeds evidence-based, patient-specific clinical pathways (MetaPathways™) into the EHR, pairing explainable AI recommendations with automated, structured documentation. The platform's core value proposition is to reduce care variation, accelerate time-to-decision, and reduce documentation burden while preserving clinician autonomy and transparency. It's not just about preventing misdiagnosis, but about creating a standardized, structured approach to patient care. By guiding decisions with a computable version of healthcare system pathways, the platform helps minimize errors, ease clinician burden, and improve consistency across providers.

### Quai.MD's intelligent care-path through AI-powered automation analyzes clinical data in real time to deliver evidence-based recommendations within the physician's workflow

**Dynamic Clinical Pathways**

Personalized, AI-driven workflows that guide optimal steps of diagnosis and management

**Integrated Physician Support**

Embedded directly into the EHR, offering decision support, documentation, and care tracking tools

**Explainable AI Model**

Provide recommendations with reasoning, documentation, and keep teams aligned for safer, and consistent care.

**Implementation & Optimization**

The Platform benefits from tailored onboarding, training, and AI iterative performance monitoring

Quai.MD'S clinical Pathway automation through AI

## OBJECTIVES

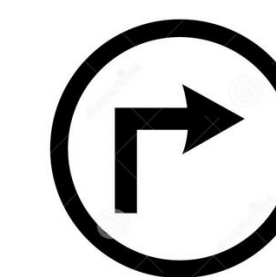
- Evaluate the Quai.MD clinical navigation platform, applying structured usability inspection methods based on Jakob Nielsen's 10 established heuristics criteria.
- Identify usability issues, functionality challenges and potential roadblocks in user interactions with the platform.

## STUDY METHODOLOGY

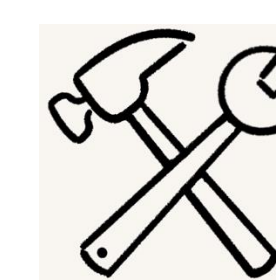
- Two independent researchers conducted the evaluation of the platform's usability using the perspective of a type of user - A 39-year-old Emergency Medicine physician managing a high patient load in a high-pressure environment.
- The evaluators analyzed the interface against Nielsen's heuristics on review of the design, layout, functionality, navigation, and content noting observed issues and their impact on usability and functionality.
- The recommendations made were categorized based on the impact value on the platform were ranked accordingly.
- For every interface page/window, the evaluator provided
  - Positive features including functionality, design, navigation, etc.
  - Error encountered or unclear outcomes.
  - Recommendations to improve the page's visibility, functionality and overall usability.

## RESULTS

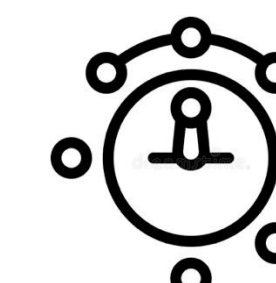
### Strengths



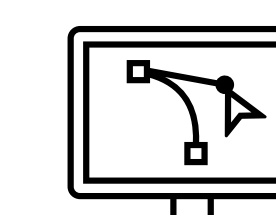
**Clarity of navigation:** Primary pathways mirror ED workflows, allowing clinicians to reach functions quickly under time pressure.



**Error prevention:** The platform demonstrates strong attention to error prevention by structuring clinical inputs within clear, predefined pathways, thus significantly reducing the chances of making an error in high-pressure situations.



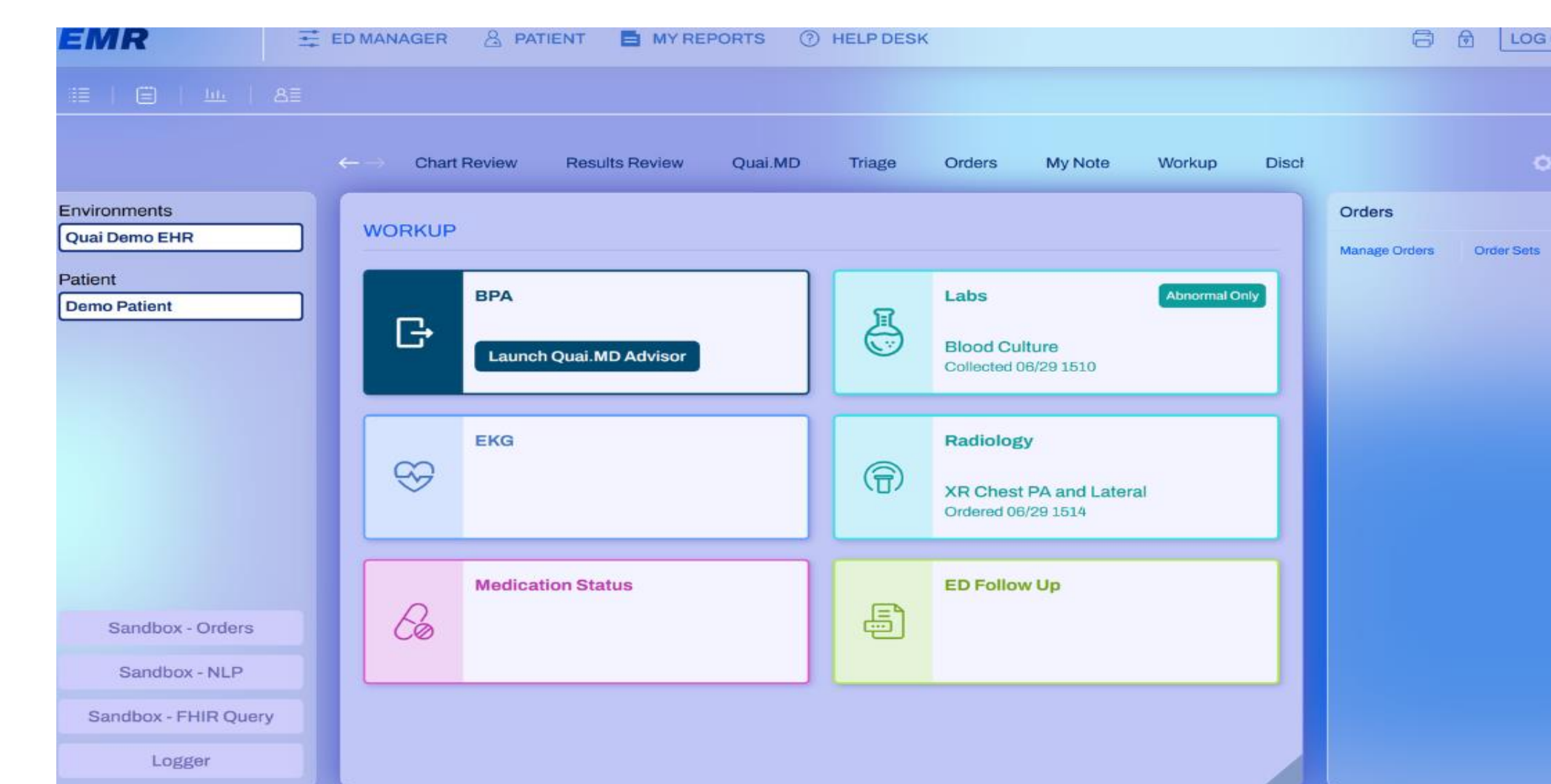
**Workflow integration:** Embedded directly within existing Electronic Health Records, minimizing workflow disruptions and avoiding the need to switch platforms.



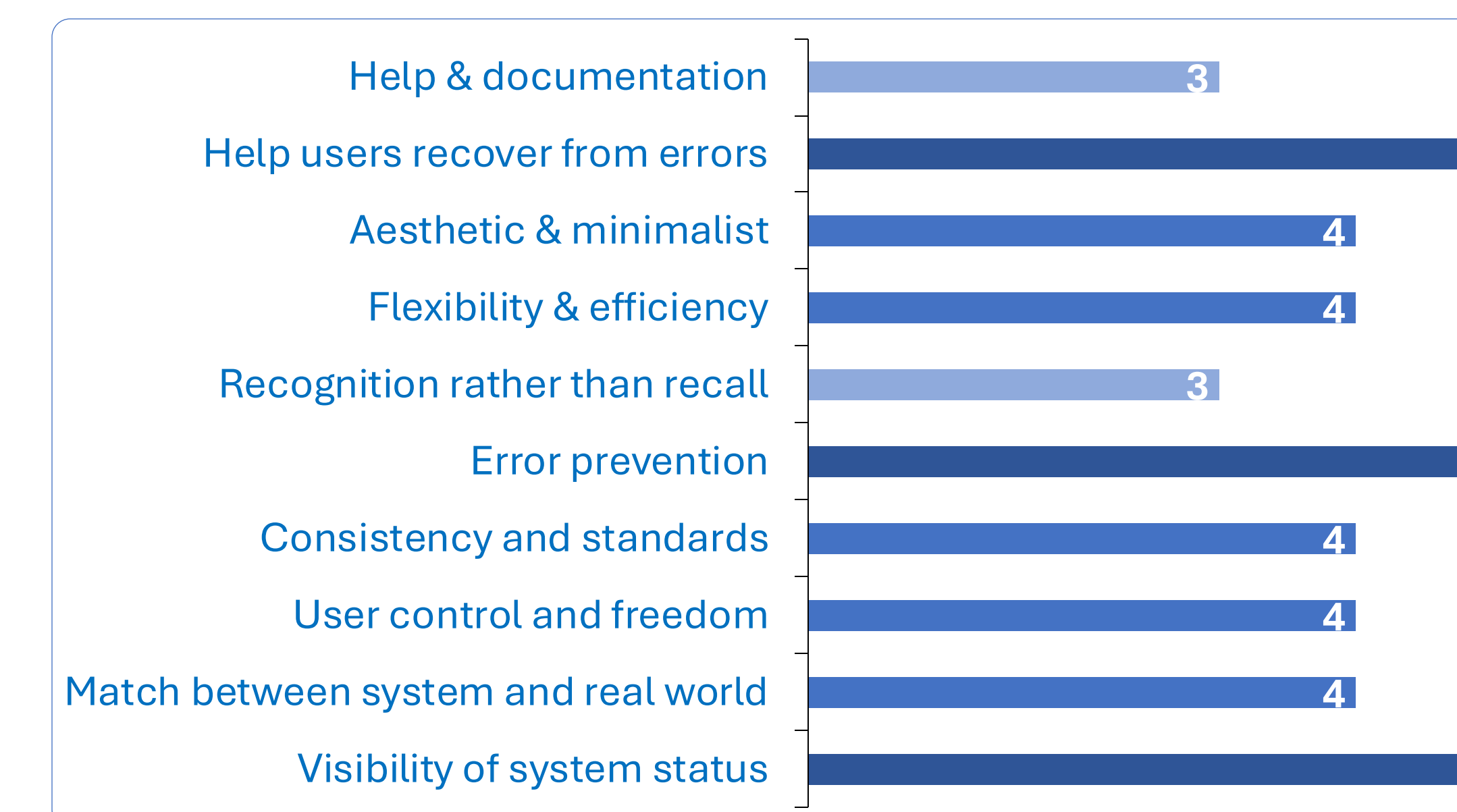
**AI-powered recommendations:** Decision support is timely, actionable, and adds clinical value by reducing care variation.



**Documentation efficiency:** The platform supports streamlined automatic documentation, reducing administrative burden and helping clinicians capture critical information without disrupting care delivery



### Heuristic Ratings (Out of 5)



## Recommendations

**Optimized Interface Interactions:** Improve icon and button sizing, contrast, and label responsiveness for rapid use in high-pressure settings. *(Adhered and Implemented)*

**Customizable Layout Options:** Enable clinicians to rearrange or expand sections to reduce cognitive load and speed assessment.

**Workflow Continuity Tools:** Add a clear in-platform auto-refresh to avoid interruptions without relying on browser controls. *(Adhered and Implemented)*

**Improved Results Organization:** Present a concise summary first, followed by detailed insights to support fast decision-making. *(Adhered and Implemented)*

**Actionable, Complete Reports:** Expand downloadable reports to include key demographics for consolidated clinical information.

## CONCLUSIONS

- Quai.MD demonstrates strong clinical relevance by reducing documentation burden and supporting accurate, high-quality patient records through AI-driven note structuring, diagnostic cues, and real-time guidance.
- Built on a solid technological and clinical foundation, it is well-positioned to scale across high-intensity care settings.
- Our heuristic evaluation also highlights opportunities to enhance usability—improving responsiveness, visual clarity, and workflow alignment.
- With these refinements, Quai.MD is poised to become a trusted, high-impact tool in emergency and acute care practice.
- Combined with a commitment to continuous improvement and user-centered design, Quai.MD has the potential to not only streamline clinical workflows but also elevate the overall quality of patient care.