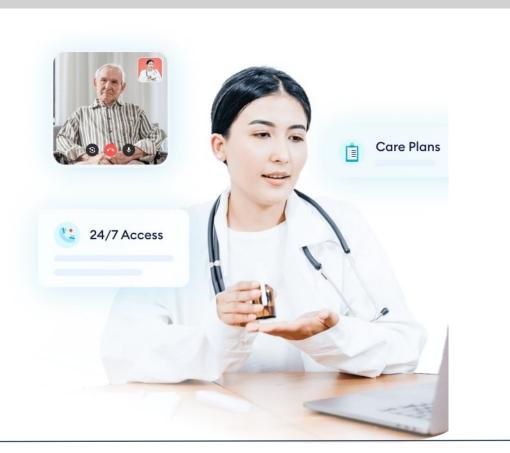# 1 True Health: Heuristic Evaluation of Carium and trueCare

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ABSTRACT

Current electronic health records are largely fragmented. This makes it difficult for patients to get a complete view of their health information and for healthcare providers to coordinate care. 1 True Health's platform aims to solve this problem by providing a centralized location for patients to store their health records and by giving healthcare providers access to this information. This study presents heuristic evaluation of 1 True Health's two digital solutions: **trueCare** and **Carium.** The aim of this heuristic evaluation is to analyze the user interfaces of the two primary digital solutions offered by 1 True Health. The goal is to provide design recommendations that enhance overall usability, acceptability, and user experience for 1 True Health. This will better enable them to fulfill their mission of empowering individuals and healthcare providers.

PLATFORM OVERVIEW

Carium

- Carium offers a versatile platform for healthcare organizations to create efficient virtual care programs, engaging patients between visits to manage chronic conditions and prevent hospital readmissions.

trueCare

- trueCare is a patient engagement and care documentation application that helps consumers connect with their providers in-between visits. It provides technology, tools, and resources to support consumers in their unique care journeys all within their daily schedules.

Benefits offered by Carium:

- One, complete care experience platform for virtual care
- Configure & scale across multiple disease states, use cases and programs
- Lower costs & increase speed-to-market through rapid implementation
- Seamless EHR integration
- Personalized care at scale through intelligent automation
- Actionable, rich real-world data, analytics & engagement
- Convenient omnichannel communication
- Private label or build your healthcare innovation on top of architecture

Benefits offered by trueCare:

- Consumers can securely connect with their care team
- Consumers can ask questions
- Consumers can seek advice
- Consumers can receive coaching
- Consumers can respond if their care team is alerted
- Record medication, adherence, track actions, explore content from care team
- Monitor progress towards various health and wellness goals

OBJECTIVES

- To perform a heuristic evaluation and expert review of Carium platform from perspective of care team member, and that of trueCare from perspective of a general consumer like a chronically ill patient.
- The goal of this review is to provide guidance and actionable recommendations for future development of both platforms of 1truehealth.

STUDY METHODOLOGY

- Heuristic Evaluation is a usability inspection method for computer software that helps to identify usability problems in the user interface design.
- During an expert review, a usability professional utilizes knowledge of heuristic standards, coupled with their experience designing and testing platforms and applications, to walk through a digital tool in the shoes of a typical user.
- This evaluation was completed by a single, independent researcher.

The Heuristics

- Jakob Nielsen's (1994) general principles, or heuristics, for interaction design provided a basis for this evaluation.
- The 10 heuristics are: Visibility of system status, Match between system and the real world, User control and freedom, Consistency and standards, Error prevention, Recognition rather than recall, Flexibility and efficiency of use, Aesthetic and minimalist design, Help users recognize, diagnose, and recover from errors, Help and documentation.

RESULTS

Heuristic Evaluation Ratings

- Subjective ratings based on review of the design, layout, functionality, navigation, and content of the Carium platform from the perspective of a care team member.

Carium

Heuristics	1 Poor	2 Fair	3 Acceptable	4 Good	5 Excellent
Visibility of System Status					✔
Match between system and the real world				✔	
User control and freedom				✔	
Consistency and standards					✔
Error prevention				✔	
Recognition rather than recall			✔		
Flexibility and efficiency of use			✔		
Aesthetic and minimalist design				✔	
Help users recognize, diagnose, and recover from errors				✔	
Help and documentation				✔	

trueCare

Heuristics	1 Poor	2 Fair	3 Acceptable	4 Good	5 Excellent
Visibility of System Status					✔
Match between system and the real world					✔
User control and freedom					✔
Consistency and standards					✔
Error prevention				✔	
Recognition rather than recall					✔
Flexibility and efficiency of use				✔	
Aesthetic and minimalist design					✔
Help users recognize, diagnose, and recover from errors					✔
Help and documentation					✔

Design Recommendations

- The following design recommendations were identified by the experts to improve the user interface of the two platforms.

Carium

- Enhance the platform's usability by incorporating a dedicated section for storing and managing medical tests and reports for all participants.
- Empower care team members to effortlessly access participants' hospitalization history, past prognosis, and other relevant medical information.
- Introduce additional layers or attributes to the analytics presented in the Dashboards section, enabling practices to gain deeper insights into their performance and identify areas for improvement.
- Implement 'i' icons with informative tooltips within the participant details section to provide clear explanations of each subsection's purpose.
- Incorporate brief profiles of care team members, accessible by clicking on their name or photo, including a larger image to facilitate easier recognition.
- Consider adding scheduled sending of learnings and messages with participants to improve communication efficiency, particularly for reminders or late-night updates.
- Include timestamps like "date created" and "Last modified on" to the care plan, ensuring that care team members have access to up-to-date information and can track plan revisions effectively.
- Provide clear instructions on how participants can contact their care team members for inquiries, updates, and video calls to facilitate effective communication and support.

trueCare

- Rename the app to avoid confusion with existing trueCare platforms and establish a unique identity.
- Personalize the vital signs segmentation by customizing normal and crisis ranges for each patient to enhance the app's value and prevent mistrust caused by discrepancies between app indications and provider analysis.
- Optimize the app's color scheme to be more inclusive for colorblind users, adhering to the Howard Hughes Medical Institute's recommendation that about 3.7% or 12 million Americans are colorblind.
- Provide clear instructions on how participants can contact their care team members for inquiries, updates, and video calls to facilitate effective communication and support.
- Incorporate options for requesting an appointment or rescheduling an appointment within the app to streamline scheduling and patient-provider interactions.
- Enhance communication transparency by explicitly informing participants about the availability of direct video calls from care team members.

CONCLUSION

- Both Carium and trueCare ranked high on almost all heuristics, with trueCare performing better on all heuristics.
- Despite the experts' identification of design recommendations following the evaluation, the high scores achieved by both platforms indicate their overall high usability.
- Implementing the suggested design improvements is anticipated to further enhance usability and user experience, leading to increased platform acceptability and adoption.
- The heuristic evaluation serves as a valuable foundation for 1True Health to refine its user experience and achieve its goal of providing a streamlined, centralized personal health records system with comprehensive care plans.