Digital Health Interventions (DHIs) provide significant benefits by enhancing accessibility and cost-efficiency in healthcare through remote solutions~\cite{philippe2022digital, }. These advantages have positioned DHIs as valuable tools for managing mental health issues, evolving into various forms such as computerized cognitive behavioral therapy (cCBT)~\cite{}, remote counseling~\cite{}, mobile application-based interventions~\cite{}, and artificial intelligence (AI)-powered systems~\cite{}.

While DHIs enable personalized and scalable mental health support, evaluating their effectiveness remains a critical challenge~\cite{}. Robust evaluation is essential for refining intervention strategies, optimizing user engagement, and ensuring clinical relevance. Though evaluation frameworks have been studied ~\cite{}, existing evaluation tools often present usability barriers for stakeholders with diverse backgrounds and varying levels of data literacy. ~\cite{}

Data visualization plays a key role in this evaluation process, yet current tools reveal a trade-off between flexibility and interpretability. Dashboards offer real-time visualizations and interactive data exploration capabilities but often require advanced data analysis skills, making them inaccessible to users with limited data expertise~\cite{}. Static reports provide structured narratives that improve accessibility, but their fixed storylines limit adaptability and dynamic decision-making~\cite{}. These limitations highlight the need for visualization tools that balance interactivity with interpretability, supporting diverse evaluators in making sense of complex DHI data.

This challenge becomes even more pronounced in the context of DHI evaluation, which often demands repeated adaptation cycles and flexible, multi-criteria assessments. Evaluation strategies such as the Multiphase Optimization Strategy (MOST)~\cite{murray2016evaluating}, its extensions~\cite{kowatsch2019design}, or the Sequential Multiple-Assignment Randomized Trial (SMART) design~\cite{collins2014optimization} emphasize the need for iterative optimization and reconfiguration of interventions based on ongoing data. However, existing visualization tools are poorly suited for such dynamic evaluation contexts. This limitation constitutes a functional gap in DHI evaluation methodology, necessitating a redesign of data visualization architectures to support multidimensional analysis, iterative assessment workflows, and variable information density based on user expertise.

In response to similar challenges across data-rich domains, recent work has introduced storytelling-based visualization~\cite{} and interactive data journalism~\cite{} as promising approaches to improve interpretability and reduce cognitive load in complex data contexts~\cite{}. These storytelling visualization techniques have demonstrated effectiveness in complex data communication contexts, particularly when technical information must be presented in accessible formats while maintaining analytical depth.

These techniques have been effectively applied in areas such as public health communication and policy reporting, where conveying data to diverse, non-expert audiences is essential. Given the similar demands for clarity, adaptability, and stakeholder accessibility in DHI evaluation,

especially within mental health contexts, narrative-driven interactive reporting systems may represent a necessary direction for DHI evaluation.

To address this gap, we propose an interactive report system designed to support interpretable and iterative evaluation of DHIs. The system is grounded in three key analytical dimensions: (1) user characteristics, (2) engagement with intervention content, and (3) intervention effectiveness~\cite{}. Our design features a block-based, semi-structured interface that balances modularity and narrative flow—enabling both structured interpretation and flexible exploration. By combining the interpretability of structured reports with the adaptability required for modern evaluation frameworks, the system provides a middle ground tailored to the dynamic, context-sensitive nature of DHI assessment.

To systematically investigate the impact of our interactive report system, we address the following research questions:

- RQ1: What features of the interactive report system do DHI evaluators find most effective for data interpretation and decision-making?
- RQ2: How does the interactive report system enhance decision makers' understanding and utilization of DHI user data?

To answer these questions, we conduct a user study (N=XX) where participants interact with the prototype and complete structured tasks, followed by semi-structured interviews. Based on their performance and feedback, we assess the effectiveness of our design and derive implications for future interactive report systems in digital health evaluation.