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Turning Trial Data into Patient-Centric Insights

Eva Kelty, Capish, Malmö, Sweden
Catharina Dahlbo, Capish, Malmö, Sweden

ABSTRACT

Every clinical data point represents more than a number; it represents a patient's experience. Yet, traditional tools often reduce this experience to static tables and slow processes, making it harder to act when it matters most. This session will highlight how a connected, intuitive approach to exploring clinical trial data can support teams in working more efficiently and uncovering insights precisely when they're needed.

Through intuitive visualizations and concept-driven navigation, users can quickly detect safety signals, monitor trends across domains, and explore relationships such as adverse events, lab results, and patient-reported outcomes - all in real time and without coding barriers.

By empowering teams to answer questions faster and respond proactively, this approach puts participant well-being at the heart of decision-making. Join us to see how technology designed for clarity and action can make clinical trials safer, smarter, and more aligned with the people who make them possible.

INTRODUCTION

Clinical trial data is growing richer, faster, and more complex, but at its core, it still represents individual patient experiences. Every lab value, symptom, and reported outcome reflects a moment in a participant's journey. As trials expand to include digital measures and greater patient input, the challenge is no longer access to data, but the ability to understand it in a way that keeps patients at the center and supports timely, confident decisions.

Traditional review processes rely heavily on static tables and predefined reports. While essential, these approaches often slow exploration and fragment patient context across domains. When teams spend time navigating outputs instead of answering clinical questions, insights are delayed, and emerging safety signals can be harder to recognize.

This paper presents a software demonstration designed to change how teams interact with clinical trial data. The approach is built on three guiding principles:

- maintaining a patient-centered view of data,
- enabling intuitive, concept-driven exploration, and
- supporting proactive safety monitoring through connected, continuously updated insights.

By aligning data exploration with how clinical teams naturally think, this approach helps teams move faster, collaborate more effectively, and stay focused on participant well-being.

A PATIENT-FOCUSED VIEW OF CLINICAL DATA

A patient-focused view of clinical data shifts analysis from isolated values to meaningful stories. Instead of reviewing adverse events, labs, and outcomes separately, teams can explore how these elements interact across a patient's journey, revealing context that static summaries often miss.

Connecting data across domains helps teams understand not just what happened, but how patients experienced the trial. Trends become easier to interpret when symptoms, clinical measures, and treatment changes are viewed together over time. This holistic perspective strengthens clinical insight and keeps patient experience central to interpretation.

When teams share a common, patient-centered view, collaboration improves. Discussions focus on understanding patient impact rather than reconciling reports, helping teams align more quickly around clinical meaning and next steps.

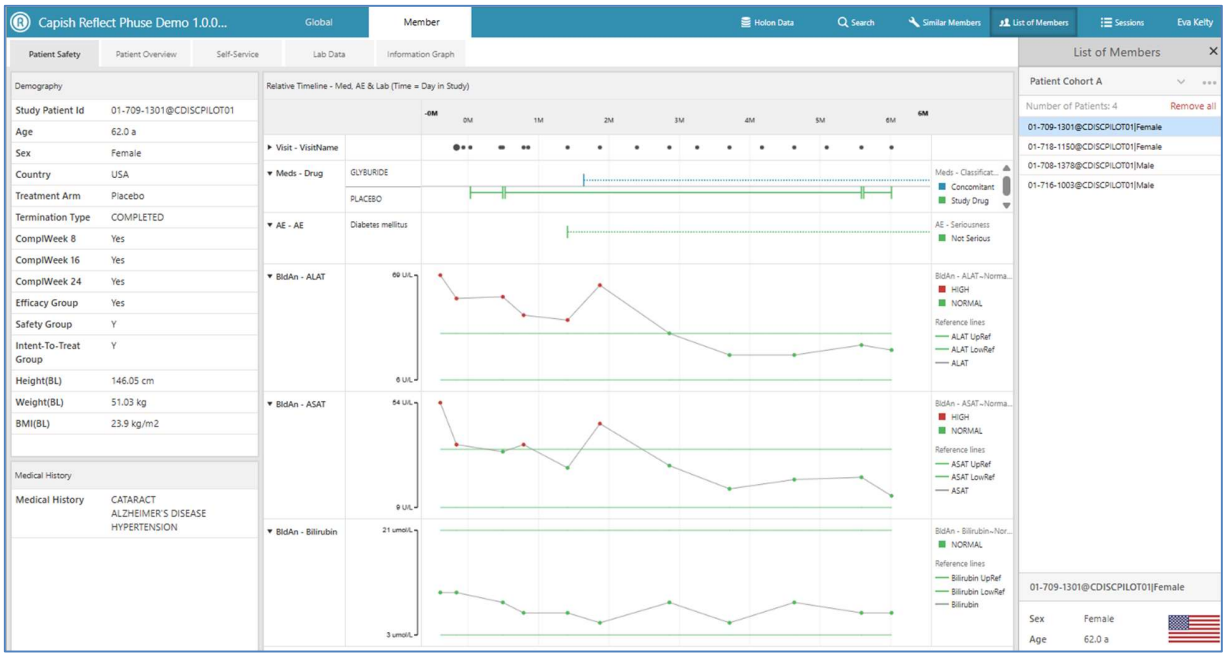

Figure 1. Visualization of a patient across domains.

CONCEPT-DRIVEN NAVIGATION

Organizing Data Around Clinical Questions

Concept-driven navigation replaces manual data searching with intuitive exploration. Instead of starting with datasets, users start with clinical questions, such as assessing safety, understanding response patterns, or reviewing patient progression.

Once a concept is selected, the system surfaces relevant views and connections across domains. This reduces friction in exploration and allows insights to emerge naturally, helping teams spend more time interpreting results and less time locating information.

From Overview to Detail

Users can move seamlessly from high-level trial summaries to detailed patient-level views with just a few interactions. This fluid transition supports efficient review and reinforces a shared understanding of patient experience across roles.
By guiding users through concepts rather than data structures, navigation remains aligned with clinical reasoning and decision-making needs.

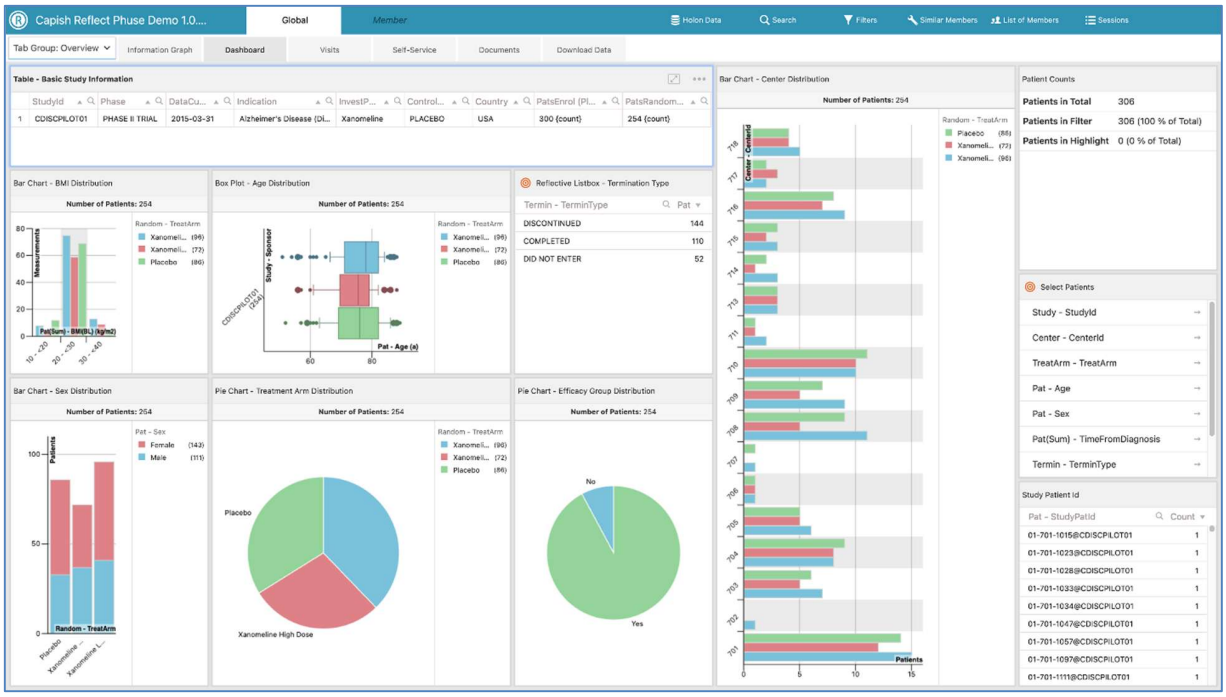

Figure 2. The PHUSE dataset after curation and standardization across domains, enabling consistent data structure and reduced manual data handling. The interactive dashboard supports rapid filtering, grouping, and exploration, allowing users to focus on analysis and insight generation rather than data cleaning.

ENHANCED SAFETY MONITORING

Timely Visibility

Effective safety monitoring depends on seeing patterns early. Instead of waiting for scheduled outputs, teams can explore the most current data as soon as it becomes available. Timely visibility supports earlier conversations and faster alignment when potential concerns arise.

Interactive dashboards highlight unusual patterns across adverse events, labs, vital signs, and patient-reported outcomes. Visual cues help direct attention to areas that warrant closer review, enabling teams to focus quickly on potential risks to participant safety.

Cross-Domain Trends

Safety signals often emerge through relationships across domains. The ability to explore cross-domain trends allows teams to identify connections such as:

- Lab changes preceding symptom onset
- Adverse event patterns within specific subpopulations
- Shifts in patient-reported outcomes following treatment adjustments
- Vital sign variability aligned with dosing schedules

Viewing these patterns together provides earlier insight into potential safety concerns and supports more informed, proactive decisions grounded in patient experience.

Figure 3. A filtered view of completed patients where the values of two patients having erythema as adverse events are highlighted.

CONCLUSION

As clinical trials grow more complex, the need for intuitive, patient-centered data review becomes increasingly important. By keeping patient experience at the core, organizing exploration around clinical concepts, and enabling connected and continuously updated safety insights, modern platforms help teams move from data to understanding more quickly.

This software demonstration shows how a clearer, more intuitive approach to clinical data exploration can strengthen collaboration, improve insight into patient journeys, and enhance participant protection. When teams can focus less on navigating data and more on understanding patients, trials become not only more efficient, but more responsive to the people who make them possible.

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CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the authors at:

Author Name: Eva Kelty
Company: Capish
Address: Lokgatan 8, Malmö, Sweden
Work Phone: +46 40 10 88 80
Email: eva.kelty@capish.com
Website: www.capish.com

Author Name: Catharina Dahlbo
Company: Capish
Address: Lokgatan 8, Malmö, Sweden
Work Phone: +46 40 10 88 80
Email: catharina.dahlbo@capish.com
Website: www.capish.com