



HealthTale: A LLM-Assisted Health Story Visualization Tool

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What is a Health Story?

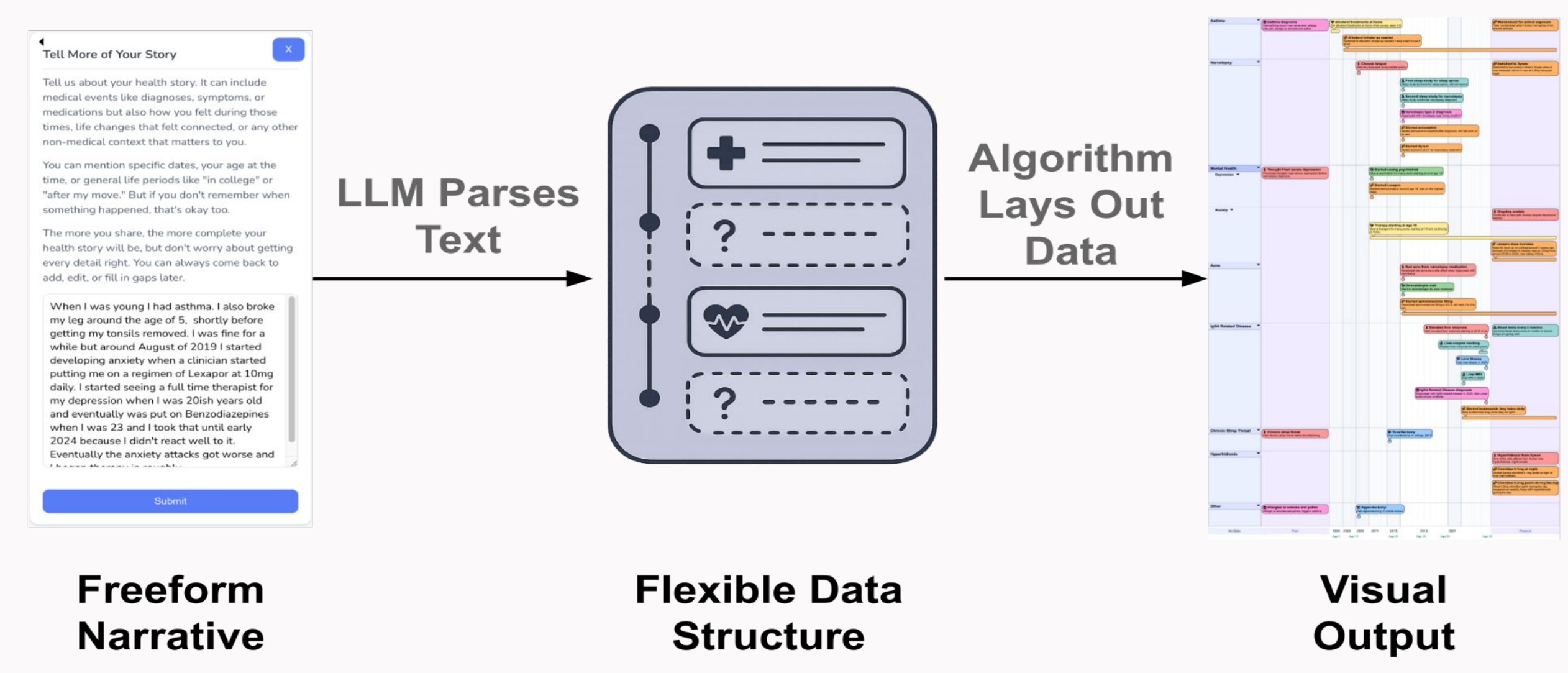
➤ Patient-generated accounts that integrate medical events with lived experience over time, including medical & contextual factors, and personal interpretations

Motivation

- Health stories are **messy narratives**, but clinicians rely on **structured systems** like Electronic Medical Records (EMRs)
- Current tools don't support both expression and structure
- Visualization preserves context while enabling rapid understanding

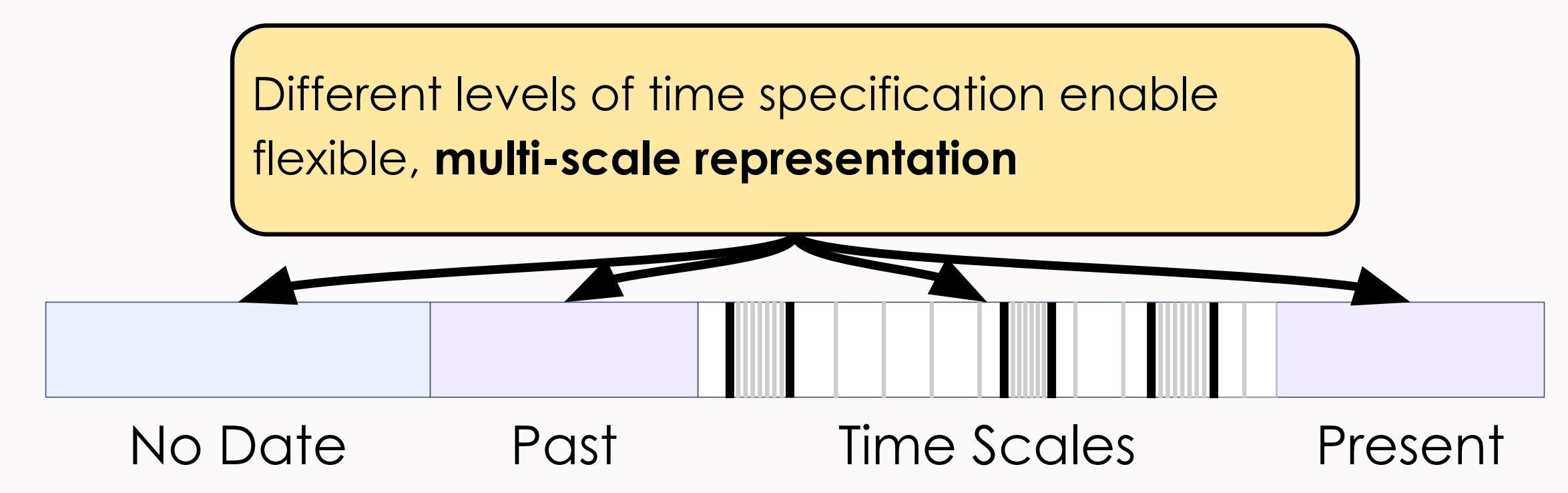
HealthTale addresses this gap by turning freeform narratives into structured, patient-centric visualizations.

HealthTale System Flow



Freeform elicitation allows patients to describe their experiences in their own way, capturing **natural expressions of time** and **contextual non-medical events**.

Flexible Temporal Representation



- Supports exact, vague, and unknown time
- Integrates many forms of temporal expression within a single representation
- Time scales handle both date-based and age-based references
- Events are clustered into groups shown at multiple time scales

This visual representation guides attention to **important time spans** by compressing **sparse** temporal periods into less screen space and devoting more room to **dense** periods of activity.

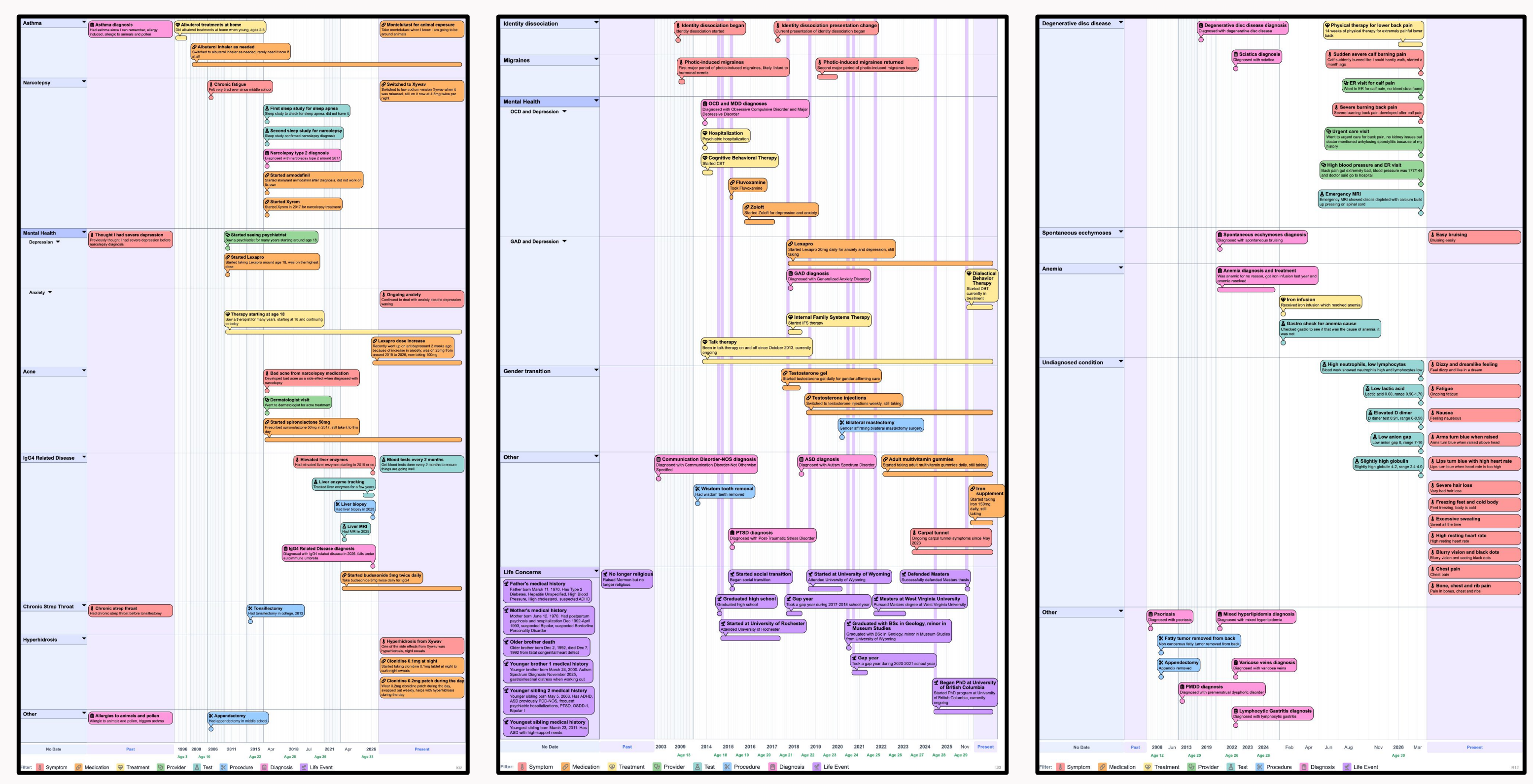
Evaluation: Semi-Structured Interviews

- Patients (n=34)
- Improved recall and organization
 - Better ability to articulate experiences
 - Increased self-advocacy

- Clinicians (n=3)
- Rapid understanding of history
 - "Easier than EMR text blocks"
 - **Insight into patient personalities**

Clinicians could **quickly see** what aspects patients **emphasized**, how non-medical events **affected** health, and how well they **tracked** their health, **informing care decisions**.

Example Patient Health Stories



Healthcare Visualization in the AI Era

- Dos:**
- Elicit richer, more personal data
 - Make input-output provenance visible
 - Support shared understanding
- Don'ts:**
- Generate when you can extract
 - Use AI as a black box, use to augment

Future: Real-World Testing

- Deploy in Thrive product
- Test with real patients and clinicians
- Evaluate in real clinical conversations

Conversational interfaces are reshaping how we think about healthcare, we need to be ready!