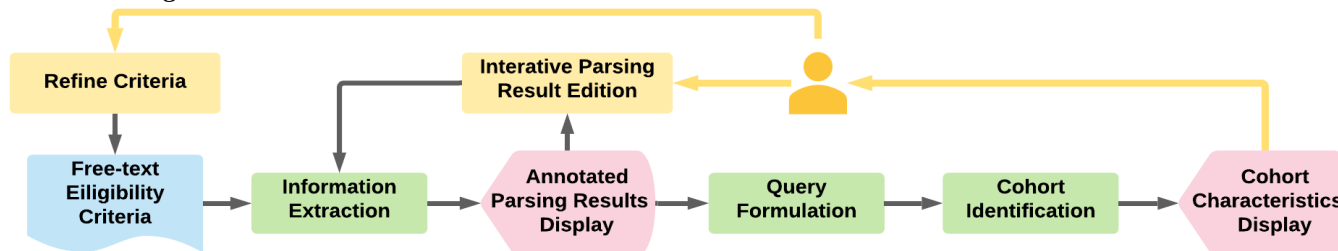# Criteria2Query 2.0: An Editable User Interface for Human-Machine Collaboration in Cohort Definition

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Impact:

We propose an editable version of Criteria2Query (version 2.0) to enhance the human-computer collaboration for the generation of a more promising and accurate cohort definition. The interactive user interface enables clinical researchers to integrate their domain expertise into the process of identifying and normalizing medical terms from clinical trial eligibility criteria.

Architecture Diagram:

Key Properties:

Automatic: The system enables a streamlined automated process from criteria information extraction to cohort identification but also presents opportunities for human intervention for reviewing and modifying parsing results and for refining eligibility criteria.

Standardized: OMOP Common Data Model version 5.

Convenient: The system provides the following functions to modify the eligibility criteria parsing result conveniently:

- Include or exclude a criterion from the query with the associated checkbox.
- Add an annotation by selecting the span of a term and matching it with a standardized concept through a pop-up annotation dialog.
- Update an annotation by first moving the cursor to the target term, pressing down Alt key or Option key, clicking the mouse, and using the pop-up annotation dialog to change its domain or mapped concept.
- Delete an annotation by moving the cursor to the target term, pressing Ctrl or Command key, and clicking the mouse.
- Erase all the annotations in a criterion by clicking the associated "Clear" button.

Real-time: The system initiates real-time cohort queries to update results, reflecting users' edition.

Accessible: Users can download the JSON file of eligibility criteria representation, the SQL query of cohort definition, and the cohort with individual IDs and basic demographics.

Portable: The Cohort Definition SQL query can be tailored to adapt to users' database.

Use Case: