Title: CQL Scripting From Atlas Cohort Definitions

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INTRO:

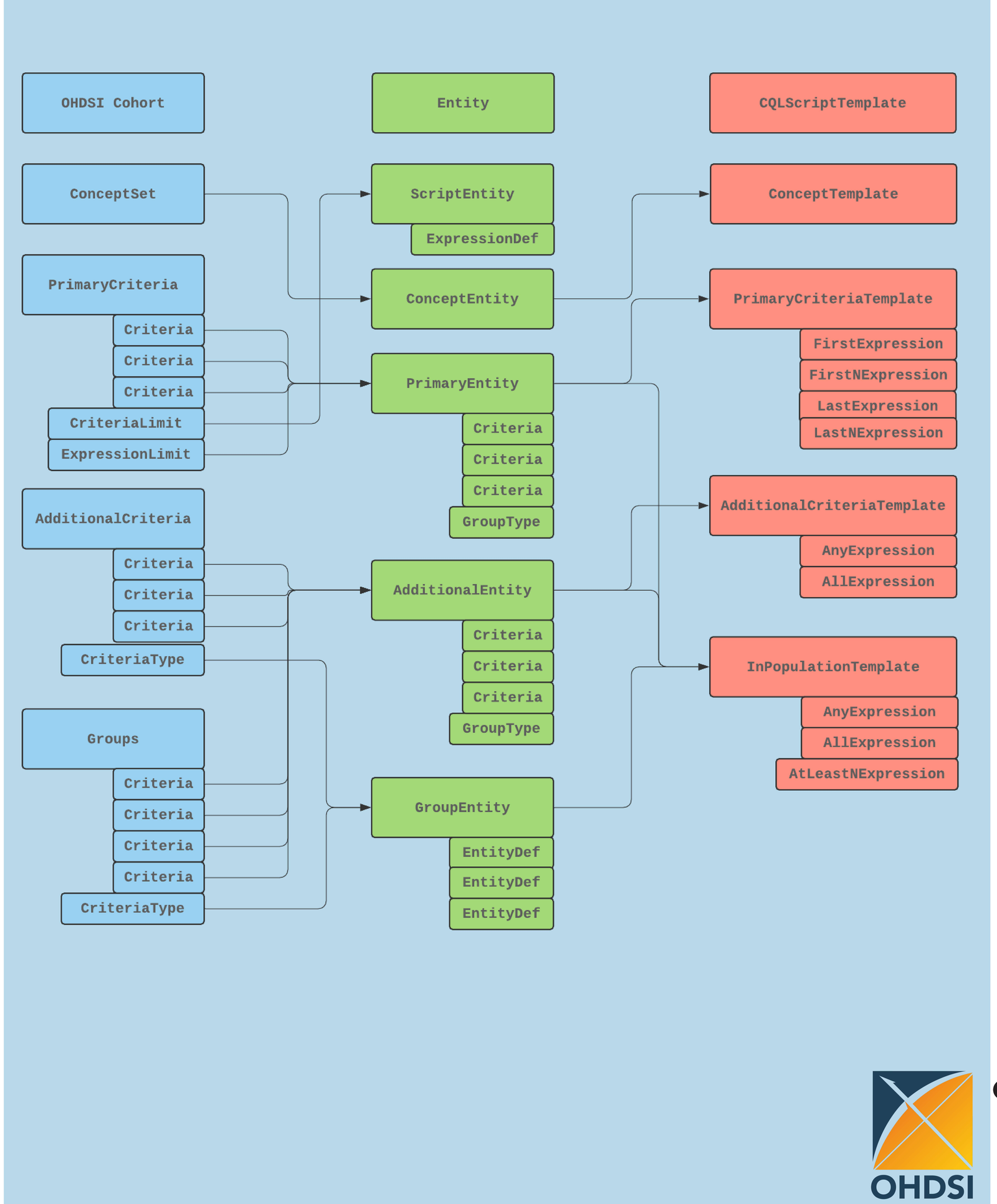
- **Who cares?** CQL is a complete language for defining logical inferences from medical datasets. Atlas Cohort Definitions are a quick structure-based definition to quickly and easily define a population set. By translating Atlas Cohort Definitions to CQL, we can use the various measure libraries available in CQL, as well as expand cohort definitions into a form that invites comparison to other measures.

METHODS

We captured the cohort definitions from atlas-ohdsi as a JSON definition. From this definition we parsed to a set of interal entities describing the concepts, primary criteria, and additional criteria used. We then use a set of cql formatting templates to convert the criteria into CQL definitions and craft a final InPopulation definition given the criteria groupings from the original cohort.

RESULTS

Translation was tested on 11 different cohort definitions with a variety of criteria sets. Preliminary results comparing the accuracy of the CQL definition vs the original cohort are pending.



- ConceptSet With SystemURI Definitions were automatically expanded into ConceptEntities using VSAC Terminology Service
- ExpressionLimit(First/Last/FirstN/LastN) Used as a global definition applied to primaryEntity
- GroupEntity Defines Grouping of AdditionalCriteria while AdditionalEntity collects temporal and value based filtering on the entity
- InPopulation Subsumes final definition from Primary, Additional, and Group Entities
- Patient CQL Context used, Population CQL Context feature in development

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