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A Unified Chart Review Tool Integrating OMOP CDM and Unstructured Data

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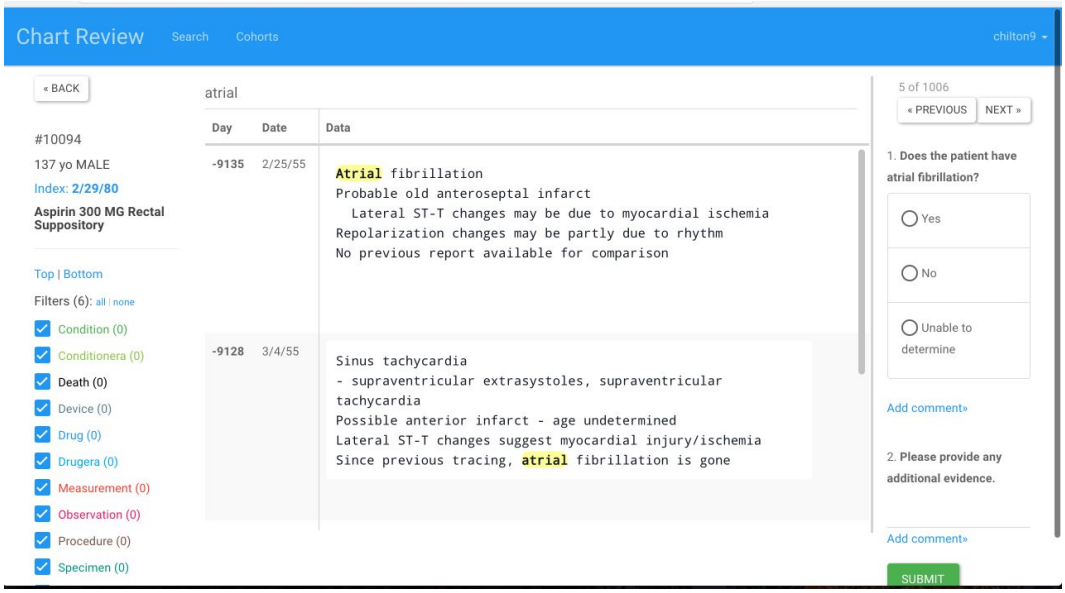
Abstract

Chart review of medical records is a necessary part of clinical research. Validation of clinical outcomes, for example, often requires examination of both structured data (e.g. diagnosis codes) as well as unstructured data (e.g. radiology reports). This software demonstration presents a unified interface for chart review linking the OMOP common data model and unstructured clinical narratives.

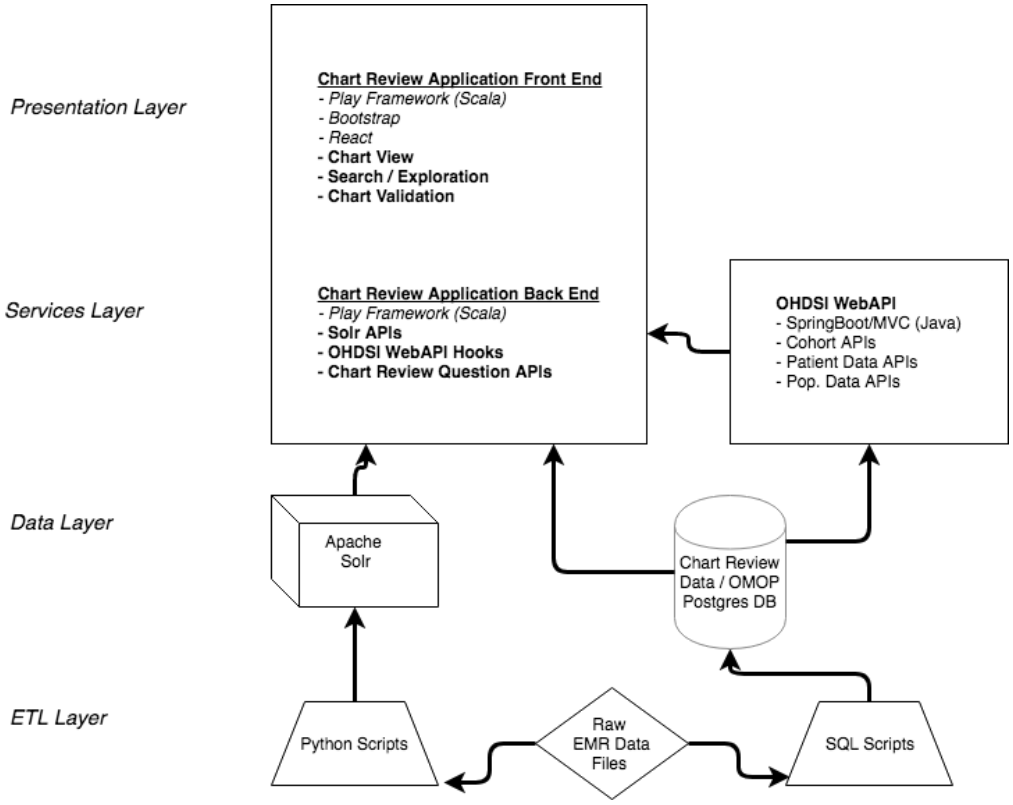
Introduction

Chart review of medical records is a necessary part of clinical research, requiring examination of both structured data and unstructured data. Creating a unified interface to facilitate rapid review of these diverse data types is thus an important consideration in chart review and abstraction.[1]



Methods

We developed an integrated chart reviewing tool to explore patients with data in the OMOP common data model as well as in text documents. Our review tool uses cohorts as the point of entry for chart abstraction. We used a minimalistic schema to incorporate clinical text narratives, using Solr, an open source text search platform. The application organizes every data point to an index date, supporting the reviewers' ability to review data temporally. We support navigation filters for traversing the chart based on index date as well as limiting content based on text found in structured and unstructured sources. The tool's design provides visual clarity for disambiguating data domains. This application has been used in our institution for expert annotation to assess phenotypic accuracy.



Conclusion

Use of OMOP provides our chart review tool with portability across institutions. Similarly, by ingesting documents into Solr, we are able to link unstructured data from multiple sources flexibly.

References

1. Allison JJ, Wall TC, Spettell CM, Calhoun J, Fargason Jr CA, Kobylinski RW et al. The Art and Science of Chart Review. The Joint Commission Journal on Quality Improvement. 2000;26(3):115-136.