

GIS WG

May 04 2021 Update

WG Goal: Geospatial data integration

- ❑ Optional OHDSI GIS module
 - ❑ alongside CDM rather than within
- ❑ Two general categories of functionality
 - ❑ Aggregation of CDM data as region-level attributes
 - ❑ Geospatial data as person-level attributes
- ❑ Potential scope is massive
 - ❑ Priority of development determined by use cases
- ❑ Focus on foundations to enable flexibility and extensibility

Thus far: Foundations

- ❑ Universal schema for geospatial data
 - ❑ Common data format to enable extensible functionality
 - ❑ Borrows from OMOP design, attributes similar to measurements
- ❑ Vertical sprints to test schema and implementation strategy
- ❑ Deployable docker infrastructure
 - ❑ PostGIS
 - ❑ Geocoder, local geo data repository, geospatial functions
 - ❑ Script loader - R, SQL, Python
 - ❑ DDLs, data extractions, API calls, translations, OMOP interface
- ❑ Rework of github repo for community contributions

Status: Exciting times

- ❑ Refining docker deployments to be comprehensive and customizable for given use cases
- ❑ Working with N3C, EPA
 - ❑ Integration of environmental and social determinant data into N3C
- ❑ Roux Institute contributions for privacy preserving strategies
- ❑ Conversion of geospatial data sets into common format
- ❑ Solving the remaining challenges...

Challenges: Enticing?

- ❑ Fundamentally different kind of data
 - ❑ Non-person-centric - data set attribution
 - ❑ Measurements with multiple values, qualifiers, methods, durations
- ❑ Privacy preserving strategies
 - ❑ Protected data does not leave site - local deployment
 - ❑ Preventing reidentification when attributed to public data
- ❑ Insufficient vocabularies
 - ❑ Lack of unique identifiers - often missing or too general
 - ❑ Lack of mapping between vocabularies
- ❑ Integration with OHDSI
 - ❑ Leverage analysis tools while avoiding duplication of data
 - ❑ Development strategy for 'optional module' approach

Meeting schedule: Every Monday at 10:00AM EST (MS Teams)

Questions?

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Thanks!