



Integrating ATLAS Cohorts with DICOM Images and ECG
Waveforms to Enrich Real-World Evidence Research

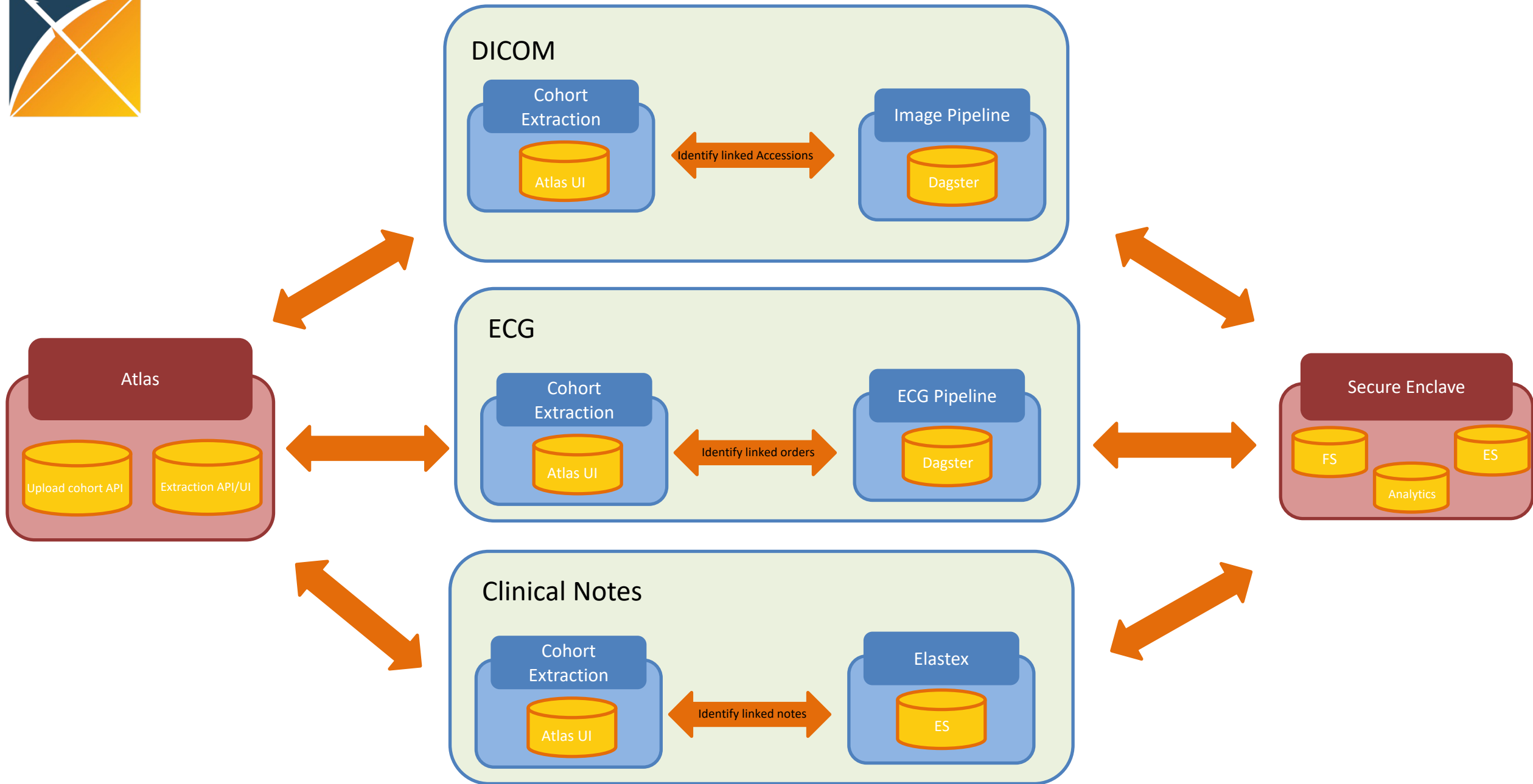
CHDI



Summary

Integrated workflow to extract external data sources into secure enclave via Atlas:

- DICOM
 - ECG Waveforms
 - Clinical notes and reports/narratives
- + patient level data from OMOP CDM
-
- Storage of artifacts in secure enclave (HPC)
 - Integration with IRB





Atlas UI

ATLAS

Home
Data Sources
Search
Concept Sets
Cohort Definitions
Simple Cohort Wizard
Cohort Extraction
Upload Cohort
Standard Cohort
External Cohort
Characterizations
Cohort Pathways
Incidence Rates
Profiles
Estimation
Prediction
Reusables
Jobs
Configuration
Feedback

Cohort#372
COPY OF Biospy with ECG all days before

Domains: Imaging

Show 25 entries Filter label:

Description	Category	Sub Category
<input checked="" type="checkbox"/> Spinal MRI...	MRI	
<input checked="" type="checkbox"/> Spinal MRI...	MRI	
<input checked="" type="checkbox"/> Spinal MRI...	MRI	
<input checked="" type="checkbox"/> Spinal MRI...	MRI	
<input checked="" type="checkbox"/> Spinal MRI...	MRI	

Showing 1 to 6 of 6 entries Previous 1 Next

Actions
Demographic
EHR billing
EHR physical
External Data

Imaging Domain
Stored as procedures
and linked to PACS DB

Preview Page

Cohort Name: COPY OF Biospy with ECG all days before
IRB Numbers: 2023-15050
IRB PI: PGORIAK@montefiore.org
Cohort Name: Active
Cohort Name: 06-SEP-23 11-25:15

User Name: ssoby
IRB Title: Training First Year Medical students in Clinical Res...
User Name: Exportable
Extraction End Date: 13-SEP-23 11-25:15

Filter label:

Variable Name	Index event	Before	After	Statistics
Head circumference	Cohort Extraction			
Gender	Cohort Extraction			
Gas panel - Arterial blood	Cohort Extraction			
Fetal or neonatal effect of maternal infection	Cohort Extraction			
Fetal or neonatal effect of maternal complication of pregnancy	Cohort Extraction			
Spinal MRI	Cohort Extraction			

Showing 1 to 6 of 6 entries Previous 1 Next

Export Type
Standard Data variables: Identified dataset
External Data: Metadata only
Export location for external data: High Performance cluster (HPC)

You will receive a separate email with instructions on how to retrieve External Data

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Export Location

Tied to IRB

Choice to materialize images



Automation/Orchestration

dicom_etl Job in dicom_etl

Overview Launchpad Runs

Type an op subset... (ex: process_metadata+*) Highlight...

Uses procedure id's to link to accession numbers and queries PACS

1. Retrieve from PACS FS
2. Create deidentified copy
3. Link to OMOP cohort/person
4. Push to enclave
5. Establish permission based on IRB

Anonymous?

Info Types

Invocation

move_image_file_from_pacs_to_dest

Inputs

process_metadata:result → metadata_rows

Execution Time

Seconds

Timestamp

Execution Status

Last 0 Runs

Definition

Op

move_image_file_from_pacs_to_dest

(metadata_rows: [dict]) ⇒ (result: Nothing)

Description

Fetch each image file specified in 'locations' from PACS file...

Config

(
 anonymize?: Bool
 create_new_folder?: Bool
)

Required Resources

omop_client
pacs_fs
target_sftp_client