

Leaf and ATLAS Query Tools

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Scientific Computing and Data

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Agenda

1. The Mount Sinai Data Warehouse
2. Introduction to Leaf & ATLAS Cohort Query Tools
3. Leaf
4. ATLAS
5. MSDW Custom Data Set Request

Mount Sinai Data Warehouse

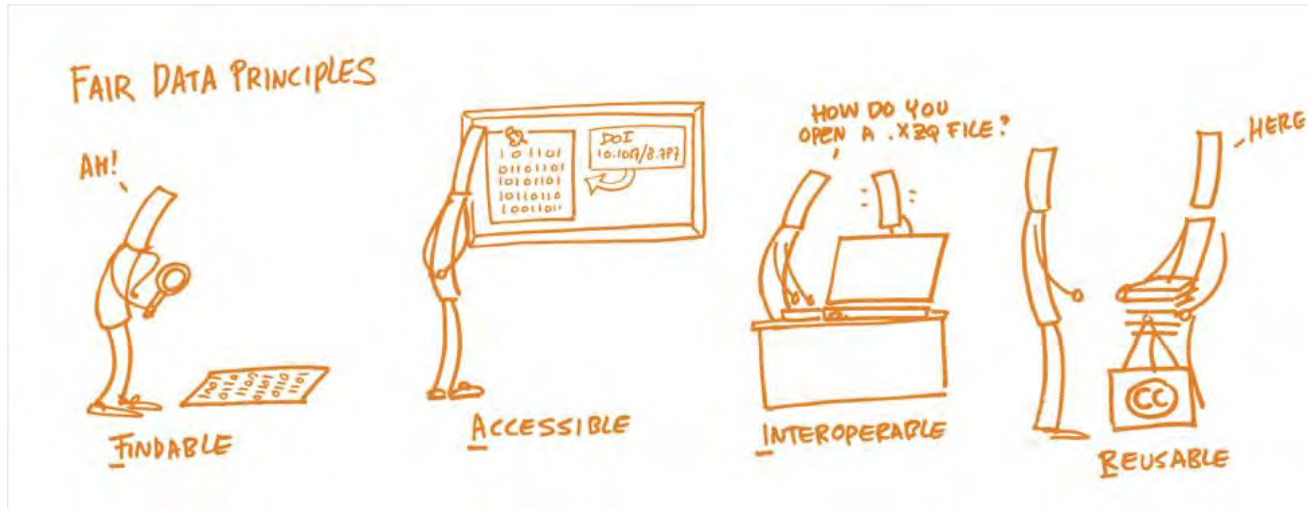
Scientific Computing FAIR Principles for Data

Findable

Accessible

Interoperable

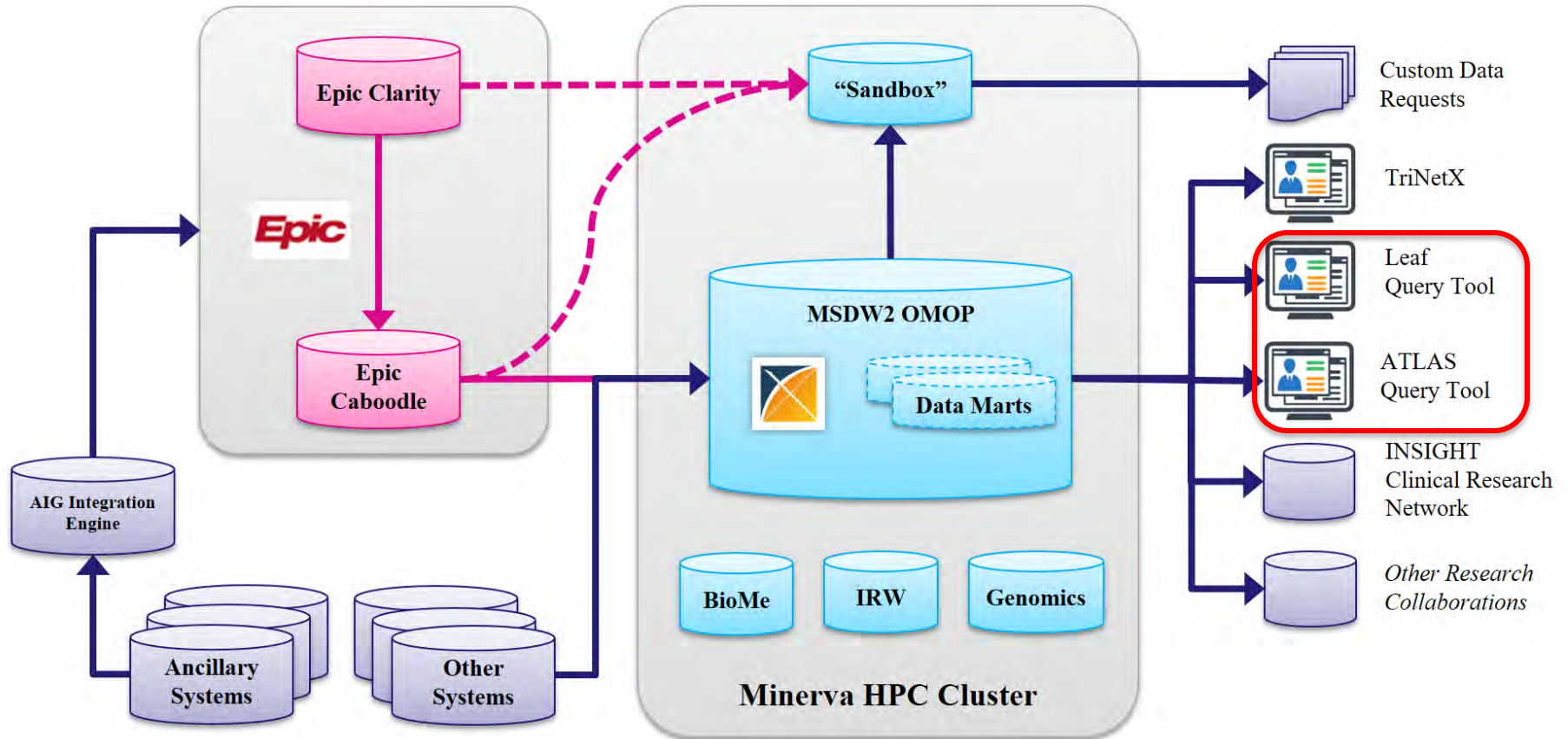
Reusable /
Reproducible



Source: NIH's Big Data to Knowledge (BD2K) Initiative (<https://commonfund.nih.gov/bd2k>)

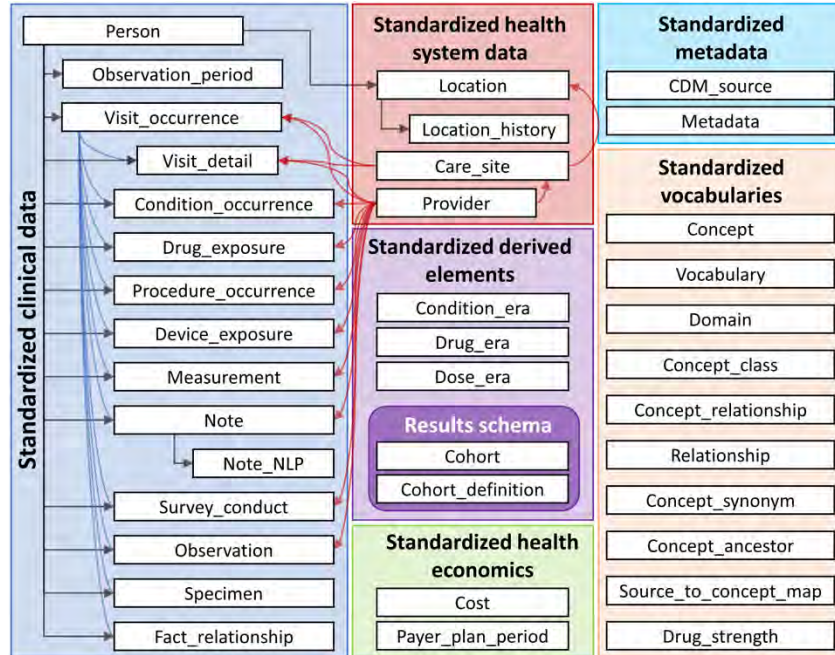
Image Source: <https://book.fosteropenscience.eu/>

Mount Sinai Data Warehouse Ecosystem



OMOP Common Data Model Requirements

1. Standardize **data structure** via common format



2. Standardize **data content** via mapping EHR codes to standard healthcare vocabularies

OMOP Domain	Standard Vocabularies	Non-standard Vocabularies
Condition	SNOMED-CT	ICD-10-CM, ICD-9-CM
Drug	RxNorm, CVX	ATC, NDC, Multum
Measurement	LOINC	SNOMED-CT, Nebraska Lexicon
Procedure	CPT4, HCPCS, ICD-10-PCS	ICD-9-Proc
Observation	SNOMED-CT, LOINC	ICD-10-CM, ICD-9-CM
Race, Ethnicity	OMOP Race, OMOP Ethnicity	SNOMED-CT, Nebraska Lexicon
Provider (Specialty)	NUCC, Medicare Specialty	SNOMED-CT, Nebraska Lexicon
Route	SNOMED-CT	Nebraska Lexicon
Unit	UCUM	SNOMED-CT, Nebraska Lexicon



MSDW Data Contents *(examples as of July 2024)*

OMDP Table	Record Type	Distinct Patients	Record Count
person	Patient Demographics	11,907,714	11,907,714
death	Patient Date of Death	51,578	51,578
visit_occurrence	Chart Documentation Event	5,916,518	101,871,186
visit_occurrence	ED Visit	1,264,805	3,123,540
visit_occurrence	Hospital Outpatient Visit	976,262	2,784,853
visit_occurrence	Inpatient Hospitalization	649,474	972,623
visit_occurrence	Inpatient Hospitalization from ED Visit	312,887	602,899
visit_occurrence	Mobile Unit Encounter	87,221	145,630
visit_occurrence	Outpatient Visit	4,477,479	85,285,020
visit_occurrence	Telehealth Visit	715,881	3,178,310
visit_occurrence	Urgent Care Visit	7,079	7,604
condition_occurrence	Billing Diagnosis	2,617,770	60,472,990
condition_occurrence	Encounter Diagnosis	4,237,020	119,783,046
condition_occurrence	Hospital Problem	922,623	3,593,212
condition_occurrence	Problem List	2,444,954	13,455,224
measurement	Flowsheet Measurement	1,820,482	226,459,093
measurement	Lab Component Result	4,136,901	1,065,127,536
measurement	Vital Signs	3,766,375	649,758,358
drug_exposure	Immunization Administration	1,439,713	8,789,505
drug_exposure	Immunization from Medication Order	217,360	280,661
drug_exposure	Immunization from Procedure Order	793,602	3,599,282

See MSDW website for the complete list: <https://labs.icahn.mssm.edu/msdw/data-sources/>

Introduction: Leaf & ATLAS Cohort Query Tools

Self-Service Cohort Query Tools

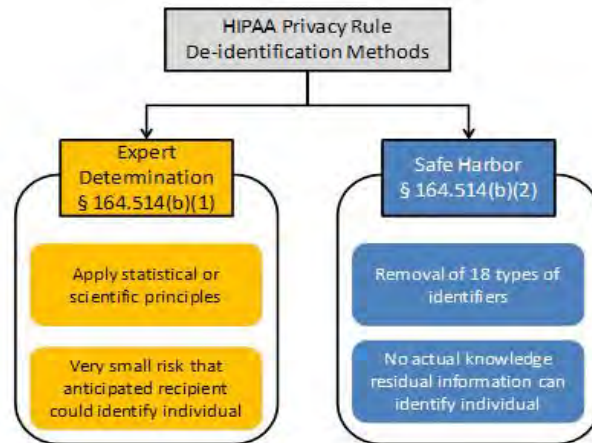
	Leaf 	Atlas 
Development	Nic Dobbins, Univ. of Washington, plus collabs., including at ISMMS	OHDSI community: www.ohdsi.org
License	Free and Open-Source Software (FOSS)	
Tradeoff	Easier, quicker, less powerful	Harder, laborious, more powerful
Data available	De-identified	De-identified
Capabilities	<ul style="list-style-type: none"> • Simple Boolean logic • Predefined stats & visualizations • Can download lists of patients (with masked IDs) 	<ul style="list-style-type: none"> • Sophisticated logic • Customized stats & visualizations • Save your work and reuse parts • Run entire statistical analyses • No data downloads

See more details at <https://labs.icahn.mssm.edu/msdw/services/>

What is PHI? What is De-identification?

“**PHI** (Protected Health Information) is information (demographic, financial, social, clinical) relating to an individual’s past, present, or future health history, treatment, or payment for health care services that is held or transmitted by a CE or its BA that identifies the individual or *for which there is a reason to believe it can be used to identify the individual.*”

De-identification is the process by which PHI is rendered not individually identifiable. The HIPAA Privacy Rule establishes two methods to de-identify PHI:



Types of Identifiers

- Name
- Street Address, city, county, zip code (the first three digits of the zip code may be used if there are more than 20,000 people in the zip code)
- All element of dates (except year), including dates of birth, admission, discharge or death
- All ages over 89
- All telephone/fax numbers
- Fax number
- E-mail addresses
- Social Security Number (SSN)
- Medical Record Number (MRN)
- Health plan beneficiary number
- Account numbers (health plan IDs, credit card, bank, invoice #s)
- Certificate/License numbers
- Vehicle identifiers, including license plate numbers
- Device identification and/or serial number
- Uniform Resource Locator (URL)
- Internet Protocol (IP) address
- Biometric identifiers (finger, voiceprints, etc)
- Full face photographic images and other comparable images
- Any other unique identifying number, characteristic, or code

Leaf Query Tool

Features of the Leaf Application

- ▶ Open-source, model-agnostic and data-driven web application for cohort discovery
- ▶ Simple drag-and-drop user interface
- ▶ Simple Boolean logic-based searches
- ▶ View pre-defined basic stats and visualizations on your cohort
- ▶ Save queries for later

Accessing Leaf

- All Mount Sinai Faculty, staff or students can access Leaf at <https://leaf.mssm.edu>
- Requires VPN access and use of your Mount Sinai Login credentials

1. Specify usage type

https://leaf.mssm.edu

leaf ITHS Institute of Translational Health Sciences ACCELERATING RESEARCH. IMPROVING HEALTH. NATIONAL CENTER FOR DATA TO HEALTH

Patient data restricted to De-Identified mode only

I want to find information for

Quality Improvement Research

Do you have an Approved IRB

No Yes

I would like Protected Health Information

De-Identified

2.

Read & Accept Consent

leaf ITHS Institute of Translational Health Sciences ACCELERATING RESEARCH. IMPROVING HEALTH. NATIONAL CENTER FOR DATA TO HEALTH

Patient data restricted to De-Identified mode only

Research - De-Identified Go Back I Agree


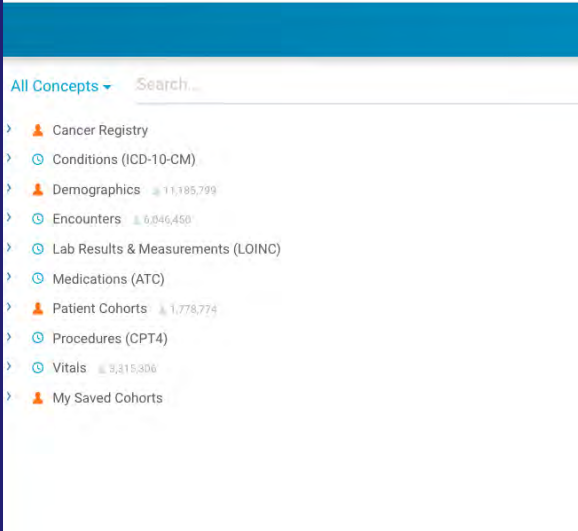
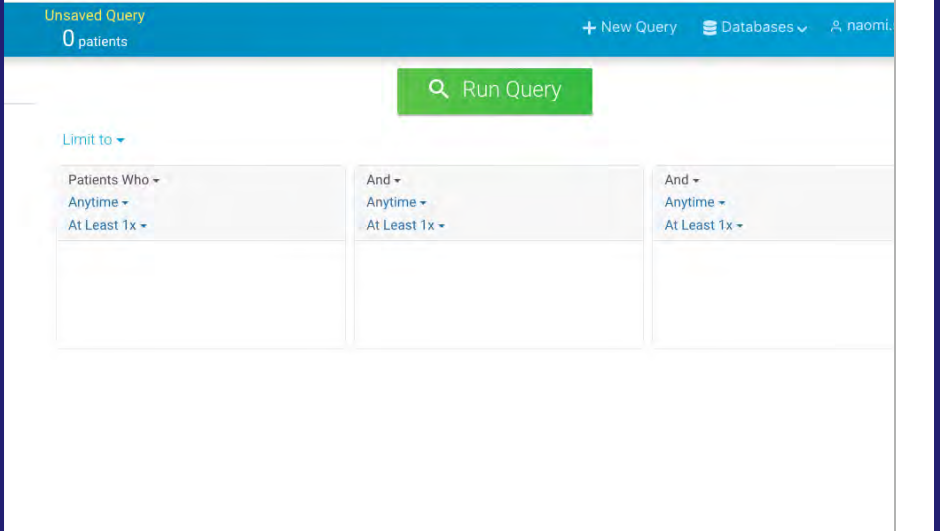
By logging in you agree to the following:

1. For Human Subjects research uses, I certify that I have completed Mount Sinai training required by the Program for Protection of Human Subjects, and agree to abide by all PPHS requirements pertaining to access, storage, sharing and review of data.
2. I will limit my review of data elements in the Data Warehouse, or any Datamarts, to only those data elements and date ranges in the scope of my IRB approved project, or for authorized Hospital uses as necessary to carry out my job responsibilities.
3. For any custom reports or datasets that I request, I will limit my request to only those data elements and date ranges in the scope of my IRB application and approval, or for authorized Hospital uses as necessary to carry out my job responsibilities.
4. When using data provided without identifiers for research purposes I will not attempt to re-identify patients from any data that I may see in the Data Warehouse or any Datamarts or reports. This restriction applies to all uses, including data being used in preparation of a project, or for purposes of research that is considered not federal-regulated human subjects research.
5. For any identified (i.e., containing PHI) Datamarts, data sets or reports made available to me, I will exclude any subjects personally known to me or co-investigators except in a formal provider/patient relationship.
6. Data supplied for projects with IRB approval shall not be re-used or re-disclosed without explicit permission from the IRB.
7. I certify that I understand and agree to abide by the guidelines of the PPHS, the rules and regulations of the Mount Sinai Medical Center, and all applicable federal and state laws and regulations.
8. I understand that all access is audited, and that unauthorized access or inappropriate usage of data may result in disciplinary action up to and including termination.

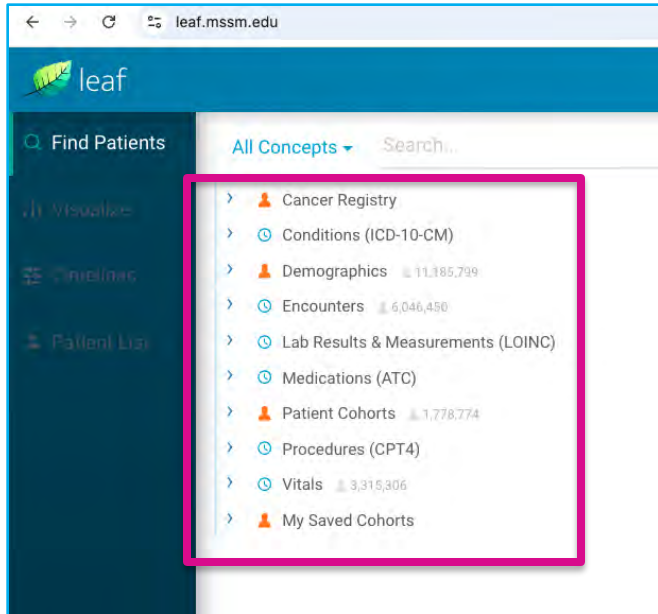
A De-identified Data Set with the following limitations:

- Patients with an age of 89 and older are masked with a value of "Greater than 89".
- Cohorts less than 10 are masked with a value of "Less than 10".
- Dates in the dataset are shifted equally per patient based on the date shift value. This ensures that the relative distance between dates in the patients' chronology remains intact.

Leaf Landing Page

Left Side Navigation	Concept Search Bar	Build and Run Query
 <p>Toggle screens</p>	 <p>Search by text or code</p>	 <p>Use select concepts and Boolean logic to build query</p>

Searchable Data Domains



Domains	Vocab	Content	Time
Conditions	ICD-10-CM	Descriptive diagnoses and codes	Encounter-based
Demographics		Age, Gender, Race, Ethnicity, Vital Status	Time-invariant
Encounters		ED visit, Inpatient, Ambulatory, Telehealth	Encounter-based
Lab Results	LOINC	Lab Orders	Encounter-based
Medications	ATC	Medications Orders and Administrations	Encounter-based
Procedures	CPT-4	Procedures	Encounter-based
Vitals	LOINC	BMI, O2 sat, Pulse, Respiratory Rate, etc.	Encounter-based

Identifying Concepts

- ▶ Two ways to search for concepts
 - Free Text search
 - Expand concept trees using left-hand arrows
- ▶ Each concept is denoted by a population quantity to the right
- ▶ To select a concept, click on it and drag it to the query box
 - The concept and all the dependent nodes will be included

The screenshot shows the leaf.mssm.edu interface. At the top, there is a search bar containing the text "Conditions (IC... breast". Below the search bar, a list of concepts is displayed, including "All Concepts (CM)", "Conditions (ICD-10-CM)", "Demographics", "Encounters", "Lab Results (LOINC)", "Medications (ATC)", "Patient Cohorts", "Procedures (CPT4)", and "Vitals". The search results are displayed in a tree view, with a pink box highlighting the search bar and another pink box highlighting the expanded tree view. The tree view shows a hierarchy of concepts, starting with "Neoplasms (C00-D49) (ICD10CM:C00.0-D49.9)", followed by "Malignant neoplasms of breast (C50) (ICD10CM:C50.011-C50.929)", and then "Malignant neoplasm of breast (ICD10CM:C50.011-C50.929)". The tree view is expanded to show the following concepts:

- Neoplasms (C00-D49) (ICD10CM:C00.0-D49.9)
 - Malignant neoplasms of breast (C50) (ICD10CM:C50.011-C50.929)
 - Malignant neoplasm of breast (ICD10CM:C50.011-C50.929) 179,528
 - Malignant neoplasm of axillary tail of breast (ICD10CM:C50.611-C50.629) 1,251
 - Malignant neoplasm of axillary tail of breast, male (ICD10CM:C50.621-C50.629)
 - Malignant neoplasm of axillary tail of unspecified male breast (ICD10CM:C50.629) 11

Institutional Patient Cohorts are Searchable in Leaf

The screenshot shows the Leaf web interface at leaf.mssm.edu. The main content area displays a list of patient cohorts under the 'Patient Cohorts' category. The 'Cancer Patient Cohort' is highlighted with a red box. The interface also shows a search bar, a 'Run Query' button, and a filter section for 'Patients Who' and 'And' conditions.

Unsaved Query
0 patients

+ New Query Databases nadm1.so

Find Patients

All Concepts Search

Limit to

Patients Who Anytime At Least 1x

And Anytime At Least 1x

And Anytime At Least 1x

Run Query

Expandable List of Cohorts:

- ▶ Cancer Registry
- ▶ Conditions (ICD-10-CM)
- ▶ Demographics 11,180,999
- ▶ Encounters 1,004,640
- ▶ Lab Results & Measurements (LOINC)
- ▶ Medications (ATC)
- ▶ Patient Cohorts 1,778,774
 - ▶ BioMe Biobank 45,218
 - ▶ BioMe Biobank Global Diversity Array (Sema4) 15,578
 - ▶ BioMe Biobank Global Screening Array (Regeneron) 23,464
 - ▶ BioMe Biobank Whole Exome Sequencing (Regeneron) 22,779
 - ▶ Cancer Institute Biorepository 13,456
 - ▶ **Cancer Patient Cohort 254,935**
 - ▶ Dental Patient Cohort 80,592
 - ▶ Digitized Pathology Slides Cohort 107,737
 - ▶ Imaging Research Warehouse 1.0 466,858
 - ▶ Imaging Research Warehouse 2.0 1,554,368
- ▶ Procedures (CPT4)
- ▶ Vitals 418,406
- ▶ My Saved Cohorts

Use Leaf to query the Cancer Patient, BioMe or IRW Cohorts

Leaf – Patient Cohorts

Patient Cohorts on Leaf	Description
BioMe Biobank	Patients who submitted tissue samples to Mount Sinai's BioMe Biobank
BioMe Biobank Global Diversity Array - Sem4	Patients who submitted tissue samples to Mount Sinai's BioMe Biobank and have had their DNA analyzed with Illumina's Global Diversity Array by Sema4
BioMe Biobank Global Screening Array – Regeneron	Patients who submitted tissue samples to Mount Sinai's BioMe Biobank and have had their DNA analyzed with Illumina's Infinium Global Screening Array by Regeneron
BioMe Biobank whole Exome Sequencing – Regeneron	Patients who submitted tissue samples to Mount Sinai's BioMe Biobank with whole exome sequence (WES) data generated by Regeneron
Cancer Institute Biorepository	
Cancer Patient Cohort	Patients who have been diagnosed with cancer, refreshed on a monthly basis around the 15th of every month
Imaging Research Warehouse 1.0	Patients who have image data in version 1.0 of the Imaging Research Warehouse (IRW)
Imaging Research Warehouse 2.0	Patients who have image data in version 2.0 of the Imaging Research Warehouse (IRW)

Building a Query



Unsaved Query
2,094 patients

+ New Query Databases haomi.so

Patients Who
In Past 12 Months
At Least 1x

Had diagnosis of Malignant neoplasms of breast (C50) (ICD10CM:C50.011-C50.929)

Patients Who
In Past 12 Months

- Anytime
- Custom Date Range
- In Past 24 Hours
- In Past 48 Hours
- In Past 72 Hours
- In Past 7 Days
- In Past 30 Days
- In Past 6 Months
- In Past 12 Months**
- In Past 2 Years
- In Past 3 Years
- In Next 10 Days
- In Next 30 Days
- In Next 6 Months

And
Anytime
At Least 1x

Are between 40 and 60 years old

In the Same Encounter

And
Anytime
At Least 2x

Treated with ANTINEOPLASTIC AGENTS
or
Treated with ENDOCRINE THERAPY

In the Same Encounter

And
Anytime
At Least 2x

- At Least 1x
- At Least 2x**
- At Least 3x
- At Least 4x
- At Least 5x
- At Least 6x
- At Least 7x
- At Least 8x
- At Least 9x
- At Least 10x

Basic Cohort Demographics



leaf Unsaved Query 2,094 patients + New Query Databases

Find Patients **Visualize** Help

Current Age By Gender

Age Group	Females	Males
<1	0	0
1-9	0	0
10-17	0	0
18-24	0	0
25-34	0	0
35-44	238	0
45-54	1,887	4
55-64	758	3
65-74	0	0
75-84	0	0
>=84	0	0

Ethnic Heritage by Language

Show Top 20 Only Show All 28 Unknown - 2,094

Ethnicity	Count
White	967
African American	325
Hispanic or Latino	422
Asian	20
Asian Indian	43
Chinese	43
Hispanic	139
Other	4
Other Hispanic	6
Other Asian	33
Other Hispanic	12
Other Asian	1
Other Hispanic	40
Other Asian	8
Other Hispanic	3
Other Asian	110
Other Hispanic	39
Other Asian	3
Other Hispanic	1

At a Glance

Category	Count
Female	2,083
Male	8
Living	2,079
Deceased	15
65 and Older	0
Under 65	2,094
Hispanic	152
Not Hispanic	1,642
Married	0
Not Married	2,094

Religious Beliefs

Religious Belief	Count
Unknown	2,094

Need Help?

Patient List

Unsaved Query
2,094 patients

+ New Query Databases admin

Find Favorites Visualize Filters

Current Datasets (Click to edit columns) Basic Demographics Add More Data

Export Data

Displaying 2,094 de-identified patients with 2,094 rows of data
What is de-identification?

1 2 3 4 5 6 ... 41 42

Person Id	Patient Of	Address Postal Code	Address State	Age	Ethnicity	Gender	Language	Marital Status	Race	Religion
View details (0 rows) 006F33F98CE4EC2E1BB74668BEF676A360F5AB004481482E85FC317E41BF7	Mount Sinai Health System	105	NY	59	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 00C21AEBB8183D80C86CA195369C0B60A7ECA70BFAFA5A801F001ED3F3DD4E0	Mount Sinai Health System	112	NY	57	Not Hispanic or Latino	FEMALE	Unknown	Unknown	African American	Unknown
View details (0 rows) 02D24AA4CB5346ADB959195D058870E571619B500E73D1E375120011A3623C79	Mount Sinai Health System	113	NY	48	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 02D97EC737CA95CFEBD3117CD577ECF882D99155A3E416111EE2C67A9E6137DA	Mount Sinai Health System	112	NY	47	Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown
View details (0 rows) 0364320C997833FEF7452A2644A14C83C80A3D4BE421C91758F89CA19E511C2	Mount Sinai Health System	104	NY	57	Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown
View details (0 rows) 0674781E6ECEB8C3C9C3BE4326FA1BCC0BB7DACF808883D62B881360F86616	Mount Sinai Health System	100	NY	50	Not Hispanic or Latino	FEMALE	Unknown	Unknown	Korean	Unknown
View details (0 rows) 071841683EDF067376B31891F8DD1C5A458E100246F568E1506338FFD065FD0	Mount Sinai Health System	100	NY	47	Not Hispanic or Latino	FEMALE	Unknown	Unknown	Asian	Unknown
View details (0 rows) 0792EA6CB03092DEC568870C58C7B89BDF3B6E295E79977A559608CC3EBD9A03	Mount Sinai Health System	100	NY	58	Not Hispanic or Latino	FEMALE	Unknown	Unknown	African American	Unknown
View details (0 rows) 0826CDD42F296298F875C03D0417201A34B5F60D4699C0E95C41FAE4FDD0D21	Mount Sinai Health System	104	NY	40	Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown
View details (0 rows) 0A46A108C2242132EA64EBA125781C1690D29E9CF5C24262F8A8F68B645D33A	Mount Sinai Health System	100	NY	56	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 0A756412C81D00CEB38C37D56E480DA095932BCE4B1C0A8567CDD45A5EBEDF26	Mount Sinai Health System	113	NY	54	Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown
View details (0 rows) 0B1105F60CD428B748CA2DB7757099C8F90F98051C042C1FACAE6E9E760A	Mount Sinai Health System	107	NY	54	Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown
View details (0 rows) 0B26179CF7CF5F11EB5AD08DA83FBEEDD2E536864F13032736302688657B9818	Mount Sinai Health System	100	NY	51	Not Hispanic or Latino	FEMALE	Unknown	Unknown	African American	Unknown
View details (0 rows) 0B4930E8F93042652F25F9D4CE127B340AA18D5825D3C36560919EB553867	Mount Sinai Health System	125	NY	42	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 0C15C89921E3D9E13238481C1E0D920BF6AF87E5E14700F80D731A3C8F11421	Mount Sinai Health System	100	NY	45	Not Hispanic or Latino	FEMALE	Unknown	Unknown	Korean	Unknown
View details (0 rows) 0D89F12906D69FB9AFCB875AF08D64EAFE0341241C9851C757D68866562F10	Mount Sinai Health System	100	NY	53	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 0E3647306565D2E37823BABBAA1109AA5AEB18076D049A1557750B4C71595C0D3	Mount Sinai Health System	068	CT	58	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 0EBCC1254F1FA9CD17E97437392EBCE8E4EB802310816F4E16628F0D93635	Mount Sinai Health System	070	NJ	55	Not Hispanic or Latino	FEMALE	Unknown	Unknown	White	Unknown
View details (0 rows) 0F3AFE02D86425F76B3585FE3F8BB9C93D64878A68685E5D8275BF2F58FA2F0E9CC972	Mount Sinai Health System	113	NY	56	Not Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown
View details (0 rows) 0F8BC166A3899F5D6B34F83EF49675A68EAE7597EBED6C1EB736A67BF965D19	Mount Sinai Health System	104	NY	45	Hispanic or Latino	FEMALE	Unknown	Unknown	No matching concept	Unknown

Need Help?

Leaf - Timeline

Used to explore temporal relationships of additional clinical events (aka concepts) to your defined patient cohort.

Sample Query:

How many patients ≥ 18 y.o. with a diagnosis of COPD (Chronic Obstructive Pulmonary Disease) had an ED visit in the past 12 months?

Secondly, what percentage of these patients had any of the following clinical events after their ED visit?

- **An inpatient visit**
- **Diagnosis of Lung Cancer**

Leaf - Timeline

1. Build and Run query to identify patient cohort
2. Click on **Timelines** from the left-hand menu

The screenshot displays the Leaf application interface. At the top, a blue header bar contains the 'leaf' logo on the left, a central notification box for an 'Unsaved Query' with '4,724 patients', and user controls on the right including '+ New Query', 'Databases', and the user name 'naomi.so'. Below the header is a dark teal sidebar menu with options: 'Find Patients', 'Visualize', 'Timelines' (highlighted with a pink box and a pink arrow), and 'Patient List'. The main content area features a search bar, a 'Save Query' button, and a query builder with three columns. The first column is titled 'Patients Who' and contains the condition 'Are >= 18 years old'. The second column is titled 'And' and contains 'Had diagnosis of Other chronic obstructive pulmonary disease (ICD10CM:J44.0-J44.9)'. The third column is titled 'And' and contains 'Had Emergency Room Visit encounter'. Each column also includes a 'Limit to' dropdown menu with options like 'Anytime' and 'At Least 1x'.

Leaf - Timeline

Identify an **Index Event** for your cohort. This is the starting point for your timeline and allows you to view other clinical events (aka concepts) that happened before and/or after, at defined time intervals.

The screenshot displays the Leaf software interface for building a cohort query. The sidebar on the left contains navigation options: Find Patients, Visualize, Timelines, and Patient List. The main workspace shows a query titled "Unsaved Query" with 4,724 patients. A pink arrow points from the "+ Choose Index Event" button in the sidebar to the main query area. The query is composed of three panels:

- Panel 1:** Patients Who - Anytime - at Least 1x - Are >= 18 years old
- Panel 2:** And - Anytime - At Least 1x - Had diagnosis of Other chronic obstructive pulmonary disease (ICD10CM:J44.0-J44.9) - In the Same Encounter
- Panel 3:** And - In Past 12 Months - At Least 1x - Had Emergency Room Visit encounter - In the Same Encounter

A question "Which event should be the index event?" is displayed above the panels. A red warning icon indicates "Panel has no associated encounters or dates" for Panel 1.

Leaf - Timeline

Add concepts of interest to your timeline by dragging and dropping from the **All Concepts** menu on the left to the **Drag and Drop Concepts for** window on the right.

The screenshot displays the Leaf software interface. On the left, a sidebar contains navigation options: Find Patients, Visualize, Timelines, and Patient List. The main area is titled "All Concepts" and shows a list of concepts under the "inpatient visit" filter. The concepts listed are "Encounters" (5,046,450), "Emergency Room and Inpatient Visit" (247,186), and "Inpatient Visit" (557,624). The "Inpatient Visit" concept is highlighted with a pink dashed box. A pink dashed arrow points from this box to a "Drag and Drop Concepts for" window on the right. This window has two columns: "All Data" and "Specific Dates or Values". The "Inpatient Visit" concept is being dragged into the "All Data" column, where it is highlighted with a pink solid box. Above this window, a text box indicates the current timeline configuration: "Timeline of 6 Month increments Before and After index event". The top of the interface shows "Unsaved Query" and "4,724 patients".

Leaf - Timeline

Under **Configure Time Spans**, adjust timeline intervals..

The image shows a multi-step configuration interface for a timeline. It consists of four panels:

- 1 Choose an index event**: Index events serve as the starting point for a timeline. Events can be chosen from the panels used to define the cohort. If a patient has more than one event, the earliest is used. A button below reads "Panel 3 (click to change)".
- 2 Drag Concepts over to view data**: Concepts can be dropped anywhere to the right to add them to the chart. A button below reads "+ Add Concepts (2 selected)".
- 3 Configure time spans**: Configure timeline date increments. A field shows "After Index Event" with a value of "6" and a unit of "Months". A pink box highlights this field, and a pink arrow points to a detailed view of this step.
- 4 Additional Options**: A button below reads "Count only first occurrence".

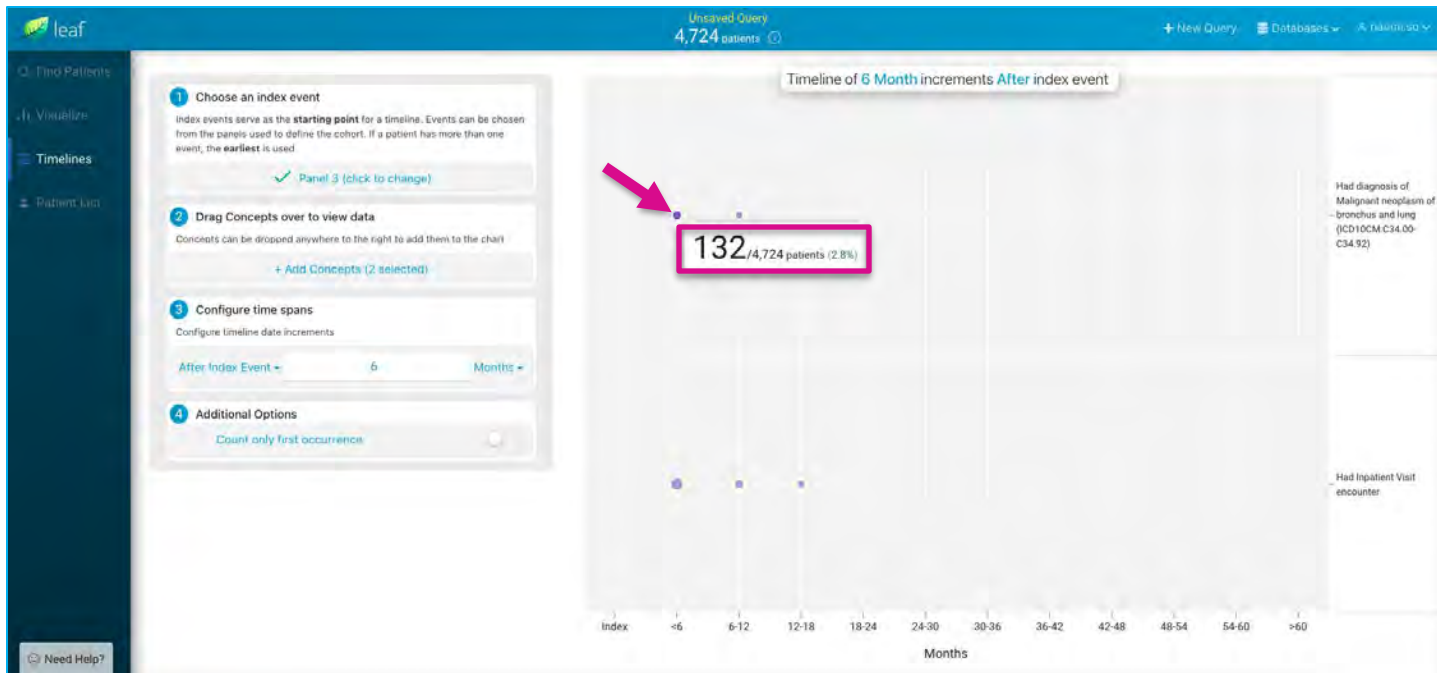
The detailed view of step 3 shows "Configure time spans" with "Configure timeline date increments". It features a dropdown menu set to "After Index Event", a numeric input field with "6", and a unit dropdown set to "Months". Below this, there are three radio button options: "Before / After Index Event", "Before Index Event", and "After Index Event", with the "After Index Event" option selected.

Under **Additional Options**, click on **Count only first occurrence** to *only* take into consideration the first time that each event took place (this applies to all added concepts in your timeline)

This is a close-up of the "Additional Options" panel. It features a label "Count only first occurrence" and a green toggle switch that is currently turned on.

Leaf's Timeline

Hover over the circles in your timeline to view how many patients from your initial cohort fall within that category (as defined by the concept and time interval)



To remove a clinical event (aka concept) from your timeline, hover over it and click on the **X**

Live Demo - Leaf

ATLAS Query Tool

ATLAS

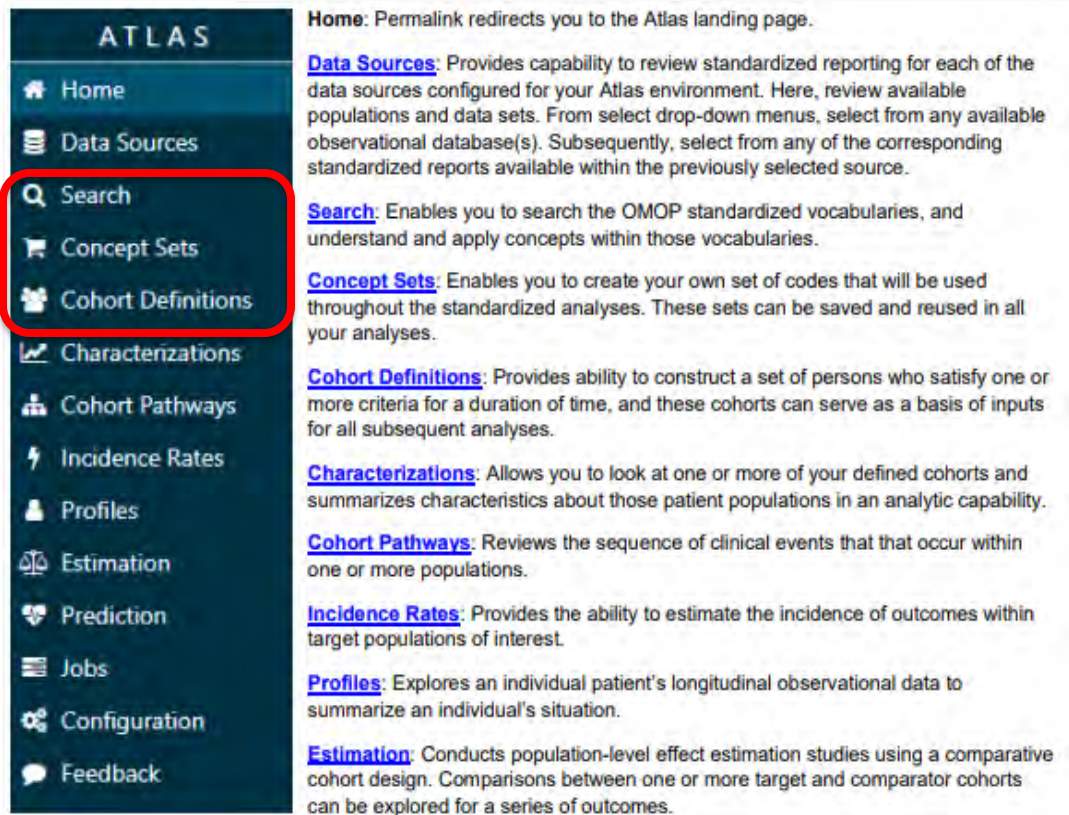
- A web-based application - design and execute observational analyses to generate real world evidence from patient level clinical data
- **Common Data Model** - A convention for representing healthcare data that allows portability of analysis
- **Concept** - A term (with a code) defined in a medical terminology, all clinical events in the OMOP CDM are expressed as concepts
- **Concept set** is an expression representing a list of concepts that can be used as a reusable component in various analyses
- **Cohort** is a set of persons who satisfy one or more inclusion criteria for a duration of time



ATLAS Access

- All Mount Sinai Faculty, staff or student can access ATLAS at <https://atlas.msdw.mountsinai.org>
- Requires VPN access and Mount Sinai School Credentials to log in
- Mount Sinai users with a Hospital account may navigate to SailPoint and request a Mount Sinai School account.
- You will be required to read and accept the SNOMED INTERNATIONAL SNOMED CT LICENSE AGREEMENT
- Sign in using your school credentials through the button on the top right corner of the interface

ATLAS - Interface



ATLAS

- Home
- Data Sources
- Search**
- Concept Sets
- Cohort Definitions
- Characterizations
- Cohort Pathways
- Incidence Rates
- Profiles
- Estimation
- Prediction
- Jobs
- Configuration
- Feedback

Home: Permalink redirects you to the Atlas landing page.

Data Sources: Provides capability to review standardized reporting for each of the data sources configured for your Atlas environment. Here, review available populations and data sets. From select drop-down menus, select from any available observational database(s). Subsequently, select from any of the corresponding standardized reports available within the previously selected source.

Search: Enables you to search the OMOP standardized vocabularies, and understand and apply concepts within those vocabularies.

Concept Sets: Enables you to create your own set of codes that will be used throughout the standardized analyses. These sets can be saved and reused in all your analyses.

Cohort Definitions: Provides ability to construct a set of persons who satisfy one or more criteria for a duration of time, and these cohorts can serve as a basis of inputs for all subsequent analyses.

Characterizations: Allows you to look at one or more of your defined cohorts and summarizes characteristics about those patient populations in an analytic capability.

Cohort Pathways: Reviews the sequence of clinical events that that occur within one or more populations.

Incidence Rates: Provides the ability to estimate the incidence of outcomes within target populations of interest.

Profiles: Explores an individual patient's longitudinal observational data to summarize an individual's situation.

Estimation: Conducts population-level effect estimation studies using a comparative cohort design. Comparisons between one or more target and comparator cohorts can be explored for a series of outcomes.

ATLAS - Search

- ▶ Enables you to search the OMOP standardized vocabularies, and understand and apply concepts within those vocabularies

The screenshot displays the ATLAS search interface. A search bar at the top contains the term 'hypertension'. Below the search bar, a table lists search results with columns for 'Id', 'Code', 'Name', 'Class', 'RC', 'DRC', 'Domain', and 'Vocabulary'. The 'RC' and 'DRC' columns are highlighted with a red box and labeled 'Record Count' and 'Descendant Record Count' respectively. A red arrow points to the 'Essential hypertension' row. On the left side, a sidebar contains various filters, including 'Vocabulary', 'Class', 'Domain', 'Standard Concept', 'Invalid Reason', and 'Has Records', which are collectively labeled 'Filters' with a red box. The interface also shows a navigation menu on the far left and a legend at the bottom right for 'Classification', 'Non-Standard', and 'Standard'.

Id	Code	Name	Class	RC	DRC	Domain	Vocabulary
320128	59621000	Essential hypertension	Clinical Finding			Condition	SNOMED
4028741	10725009	Benign hypertension	Clinical Finding	632	7,540	Condition	SNOMED
312648	1201005	Benign essential hypertension	Clinical Finding	6,908	6,908	Condition	SNOMED
4322024	70995007	Pulmonary hypertension	Clinical Finding	3,403	4,149	Condition	SNOMED
4024560	106005003	Hypertension AND/OR vomiting complicating pregnancy childbirth AND/OR puerperium	Clinical Finding	0	2,018	Condition	SNOMED
4279525	367390009	Hypertension in the obstetric context	Clinical Finding	0	1,804	Condition	SNOMED
319826	31992008	Secondary hypertension	Clinical Finding	1,072	1,795	Condition	SNOMED
4118910	288250001	Maternal hypertension	Clinical Finding	247	1,360	Condition	SNOMED
4167493	48194001	Pregnancy-induced hypertension	Clinical Finding	519	1,113	Condition	SNOMED
312935	234072000	Venous hypertension	Clinical Finding	0	1,042	Condition	SNOMED
317898	78975002	Malignant essential hypertension	Clinical Finding	895	895	Condition	SNOMED
4289933	70272006	Malignant hypertension	Clinical Finding	0	895	Condition	SNOMED
4311246	86041002	Pre-existing hypertension in obstetric context	Clinical Finding	175	691	Condition	SNOMED
44782429	104931000119100	Chronic kidney disease due to hypertension	Clinical Finding	523	675	Condition	SNOMED
381290	4210003	Ocular hypertension	Clinical Finding	652	652	Condition	SNOMED

Filters

Search

Record Count

Descendant Record Count

ATLAS – Search

- ▶ Clicking on a term will open a more detailed view within the vocabularies with the following tabs:
 - **Details** presents Vocabulary ID, Concept ID, Concept Code, and other property values connected to the record
 - **Related Concepts** provides other vocabulary for similar terms that may specify or broaden the search
 - **Hierarchies** indicates parents and children of the concept within the OMOP vocabulary
 - **Record Counts** displays the source of the records as well as the quantity

The screenshot shows the ATLAS web application interface. On the left is a dark blue sidebar with navigation links: Home, Data Sources, Search, Concept Sets, Cohort Definitions, Characterizations, Cohort Pathways, Incidence Rates, Profiles, Estimation, Prediction, and Jobs. The main content area has a dark header with 'Vocabulary > Concept' and 'Essential hypertension'. Below the header are four tabs: 'Details' (highlighted with a red box), 'Related Concepts', 'Hierarchy', and 'Record Counts'. The 'Details' tab displays a table of properties and values for the concept.

Property	Value
Concept Name	Essential hypertension
Domain Id	Condition
Concept Class Id	Clinical Finding
Vocabulary Id	SNOMED
Concept Id	320128
Concept Code	59621000
Invalid Reason	Valid
Standard Concept	Standard

At the bottom of the details view, there are three checkboxes: 'Exclude', 'Descendants', and 'Mapped', followed by a green 'Add To New Concept Set' button.

ATLAS – Concept Sets

- Building blocks of ATLAS queries
- Expression that allow for identifying sets of concepts that can be grouped together and used as a reusable component in various analyses
- Can contain any set of concepts across any of the domains within the OMOP standardized vocabulary. These can be customized so that different terms can be expressed in one item.

The screenshot shows the ATLAS web application interface. On the left is a dark blue sidebar with navigation options: Home, Data Sources, Search, Concept Sets (highlighted with a red box), Cohort Definitions, Characterizations, Cohort Pathways, Incidence Rates, Profiles, Estimation, Prediction, Jobs, Configuration, and Feedback. The main content area is titled 'Concept Sets' and has 'List' and 'Export' tabs. Below the tabs are buttons for 'Column visibility', 'Copy', 'CSV', and a 'Show 15' dropdown. A table lists 15 concept sets with columns: Id, Name, Created, Modified, and Author. A red callout box with the text 'Create New Concept Set' has an arrow pointing to a 'New Concept Set' button in the top right corner of the main content area. The table data is as follows:

Id	Name	Created	Modified	Author
123	PID	10/03/2023 8:51 PM	10/03/2023 8:51 PM	occonnp06
122	PID_dx	10/03/2023 8:45 PM	10/03/2023 8:45 PM	occonnp06
121	NSCLC	09/19/2023 1:35 PM	09/19/2023 1:35 PM	vaiksp01
120	lung onc	09/19/2023 1:22 PM	09/19/2023 1:22 PM	vaiksp01
119	High Risk Pediatric Cardiac Patients	08/22/2023 2:09 PM	08/22/2023 2:09 PM	moosr07
118	Deliveries	08/04/2023 12:25 PM	08/04/2023 12:25 PM	robakt01
117	CAD	07/25/2023 5:39 PM	07/25/2023 5:39 PM	shangl01
116	PICU	07/21/2023 12:14 PM	07/21/2023 12:14 PM	moosr07
115	Total Shoulder Arthroplasty	07/12/2023 4:48 PM	07/12/2023 4:48 PM	sternb06
114	Concept set BCDM	05/30/2023 4:19 PM	05/30/2023 4:41 PM	leitea01
113	DM2	05/30/2023 4:09 PM	05/30/2023 4:09 PM	leitea01
112	GLP	05/30/2023 3:02 PM	05/30/2023 4:06 PM	leitea01
111	SGLT2i	05/30/2023 11:41 AM	05/30/2023 12:52 PM	leitea01
109	Migraine Test	05/23/2023 11:32 AM	05/23/2023 11:41 AM	son01
108	Diabetes Test_AJ	05/22/2023 2:44 PM	05/22/2023 2:48 PM	cabera01

ATLAS – Create New Concept Set

New Concept Set

1. Title your Concept Set (i.e. *Hypertension – NS Test*)
2. **Add concepts** → Search for concepts of interest (i.e. *essential hypertension*)
 - Select concepts to include or exclude, along with any of their associated Descendants
3. View **Included Concepts** and **Included Source Codes** under respective tabs
4. Click **Save**

Concept Set #125
created by son01 on 2023-10-08 1:04 , modified by son01 on 2023-10-08 1:04

Hypertension - NS test **1. Title**

Concept Set Expression | **Included Concepts** (16) | Included Source Codes | Export | Import | Compare

Show 25 entries

Showing 1 to 4 of 4 entries

<input type="checkbox"/>	Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	<input type="checkbox"/> Exclude	<input checked="" type="checkbox"/> Descendants	<input type="checkbox"/> Mapped
<input type="checkbox"/>	4167493	48194001	Pregnancy-induced hypertension	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	4118910	288250001	Maternal hypertension	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	317898	78975002	Malignant essential hypertension	Condition	Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	320128	59621000	Essential hypertension	Condition	Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2. Add Concepts

3. Included Concepts & Source Codes

4. Save

Classification Non-Standard Standard

ATLAS – Cohort Definitions

- Where you define the cohort inclusion criteria that must be satisfied for a duration of time
- Can serve as a basis of inputs for subsequent analyses
- Click **New Cohort** to create a new definition

The screenshot shows the ATLAS Cohort Definitions page. The left sidebar contains navigation items: Home, Data Sources, Search, Concept Sets, Cohort Definitions (highlighted), Characterizations, Cohort Pathways, Incidence Rates, Profiles, Estimation, Prediction, and Jobs. The main content area shows a table of cohort definitions with the following data:

Id	Name	Created	Updated	Author
116	URM_PID	10/03/2023 7:16 PM	10/03/2023 7:16 PM	oconnp06
115	Test Cohort	10/02/2023 11:40 AM	10/02/2023 11:40 AM	aroraa10
114	Pts with Surgeries 9.1.22 - 8.31.23	09/27/2023 1:49 PM	09/27/2023 1:49 PM	aroraa10
113	Lung onc	09/19/2023 1:24 PM	09/19/2023 1:24 PM	vaiskp01
112	Total Shoulder Arthroplasty	07/12/2023 4:50 PM	07/12/2023 4:51 PM	sternb06
111	DMBCwomed	05/30/2023 4:25 PM	05/30/2023 4:55 PM	leitea01
101	# Patients with Diabetes during CY2022	02/23/2023 12:29 PM	05/22/2023 2:53 PM	cabera01
104	Pediatric ECMO 3.8.2023	03/08/2023 2:41 PM	04/03/2023 10:52 AM	mooss07
109	CPT Project Test	03/23/2023 2:55 PM	03/23/2023 2:55 PM	sicarr01
108	Test	03/21/2023 2:32 PM	03/21/2023 2:32 PM	cabera01
107	Heart transplant pts	03/16/2023 9:31 PM	03/16/2023 9:31 PM	kapooa07
106	Cannabis	03/15/2023 3:54 PM	03/15/2023 3:54 PM	silbee02
102	Pediatric ECMO	03/07/2023 3:49 PM	03/07/2023 4:03 PM	mooss07
92	Down Syndrome	11/30/2022 9:19 PM	11/30/2022 9:19 PM	gansaw01
91	MBC PARP inhibitors	11/29/2022 2:31 PM	11/29/2022 2:34 PM	casasn01

ATLAS – Cohort Definitions

Cohort Criteria:

- **Cohort Entry Event:** What must be observed so that someone enters the cohort?
- **Inclusion Criteria:** Use concept sets to apply specific criteria to cohort entry event to identify subpopulation
- **Cohort Exit:** How does person leave the cohort of interest?

The screenshot displays the ATLAS Cohort Definitions interface for Cohort #117. The sidebar on the left includes navigation options: Home, Data Sources, Search, Concept Sets, Cohort Definitions (highlighted with a red box), Characterizations, Cohort Pathways, Incidence Rates, Profiles, Estimation, Prediction, Jobs, Configuration, and Feedback. The main content area shows the cohort definition for Cohort #117, created by son01 on 2023-10-08 15:21, with the title "New Users of ACE inhibitors with a prior diagnosis of hypertension". The interface is divided into three main sections, each highlighted with a red box and an arrow:

- Cohort Entry Events:** This section allows defining the events that trigger cohort entry. It includes a description field, a "Restrict initial events" button, and configuration options for continuous observation (at least 0 days before and 0 days after event index date) and limiting initial events to the earliest event per person. A "+ Add Initial Event" button is also present.
- Inclusion Criteria:** This section allows defining the criteria for including individuals in the cohort. It includes a "New inclusion criteria" button and configuration options for limiting qualifying events to the earliest event per person.
- Cohort Exit:** This section allows defining the events that cause individuals to exit the cohort. It includes an "Event Persistence" dropdown (set to "end of continuous observation") and a "Censoring Events" section with a "+ Add Censoring Event" button. Currently, no censoring events are selected.

ATLAS – Cohort Definitions: Cohort Entry Events

Cohort Entry Events - *Example: New Users of ACE Inhibitors*

1. Add Initial Event (ie. add Drug Exposure)
2. Import Concept Set (i.e. ACE Inhibitor – NS Test)

Cohort Entry Events

Events having any of the following criteria:

a drug exposure of **Any Drug** **2. Import Concept Set**

with days before and days after event index date

Limit per person.

1. Add Initial Event **+ Add Initial Event**

+ Add attribute.

- Add Condition Era**
Find patients with specific diagnosis era.
- Add Condition Occurrence**
Find patients with specific diagnoses.
- Add Death**
Find patients based on death.
- Add Device Exposure**
Find patients based on device exposure.
- Add Dose Era**
Find patients with dose eras.
- Add Drug Era**
Find patients with with exposure to drugs over time.
- Add Drug Exposure**
Find patients with exposure to specific drugs or drug classes.
- Add Measurement**
Find patients based on Measurement.
- Add Observation**
Find patients based on lab tests or other observations.
- Add Observation Period**
Find patients based on Observation Period.
- Add Payer Plan Period**
Find patients based on Payer Plan Period.
- Add Procedure Occurrence**
Find patients that experienced a specific procedure.
- Add Specimen**
Find patients based on Specimen.
- Add Visit**
Find patients based on visit information.

ATLAS – Cohort Definitions: Cohort Entry Event (cont.)

3. Add Attributes (i.e. Add First Exposure Criteria)

- Add First Exposure Criteria to define First time users
- Add Age at Occurrence Criteria (Aged >=18)
- Add Start Date Criteria (drug start date after 1/1/2000)

3. Click to Add Attributes

The screenshot shows the 'Cohort Entry Events' configuration page. The main area displays criteria for a drug exposure of 'Ace Inhibitor - NS Test'. Three criteria are listed with red 'X' icons: 'for the first time in the person's history', 'occurrence start is: After 2000-01-01', and 'with age Greater or Equal To 18'. A red box highlights these three criteria, with an arrow pointing to the text 'Added attributes display here'. Below this, there are fields for 'with continuous observation of at least 0 days before and 0 days after event index date' and 'Limit initial events to: earliest event per person'. A red box highlights the 'Restrict initial events' button, with an arrow pointing to the text '4. Click to Restrict Initial Events'. On the right, a dropdown menu is open, showing a list of criteria options. A red box highlights the '+ Add attribute...' button at the top of the dropdown, with an arrow pointing to the text '3. Click to Add Attributes'. Three red arrows point from the dropdown menu to the criteria options: 'Add First Exposure Criteria', 'Add Age at Occurrence Criteria', and 'Add Start Date Criteria'.

Events having any of the following criteria:

a drug exposure of **Ace Inhibitor - NS Test**

- ✗ for the first time in the person's history
- ✗ occurrence start is: **After** 2000-01-01
- ✗ with age **Greater or Equal To** 18

with continuous observation of at least **0** days before and **0** days after event index date

Limit initial events to: **earliest event** per person.

Restrict initial events

4. Click to Restrict Initial Events

3. Click to Add Attributes

- + Add attribute...**
- Delete Criteria**

- Add First Exposure Criteria**
Limit Drug Exposures to the first exposure in history.
- Add Age at Occurrence Criteria**
Filter Drug Exposures by age at occurrence.
- Add Gender Criteria**
Filter Drug Exposures based on Gender.
- Add Start Date Criteria**
Filter Drug Exposures by the Drug Exposure Start Date.
- Add End Date Criteria**
Filter Drug Exposures by the Drug Exposure End Date.
- Add Drug Type Criteria**
Filter Drug Exposures by the Drug Type.
- Add Visit Criteria**
Filter Drug Exposures based on visit occurrence of drug exposure.
- Add Stop Reason Criteria**
Filter Drug Exposures by the Stop Reason.
- Add Refills Criteria**
Filter Drug Exposures by Refills.
- Add Quantity Criteria**
Filter Drug Exposures by Quantity.
- Add Days Supply Criteria**
Filter Drug Exposures by Days Supply.
- Add Route Criteria**
Filter Drug Exposures by Route.
- Add Effective Dose Criteria**
Filter Drug Exposures by Effective Dose.
- Add Dose Unit Criteria**
Filter Drug Exposures by Dose Unit.
- Add Lot Number Criteria**
Filter Drug Exposures by Lot Number.

ATLAS – Cohort Definitions: New Inclusion Criteria

Inclusion Criteria ?

New inclusion criteria Copy Delete

1. have a prior diagnosis of hypertension **1. Add description**

enter an inclusion rule description

having **all** of the following criteria: **2. Add Inclusion Criteria** + Add criteria to group...

with **at least 1** using **all** occurrences of:

a condition occurrence of **Hypertension - NS test** **3. Import Concept Set** + Add attribute

where **event starts** between **All** days **Before** and **0** days **Before** **index start date** [add additional constraint](#)

The index date refers to the event from the Cohort Entry criteria.

restrict to the same visit occurrence

allow events from outside observation period


Limit qualifying events to: **earliest event** per person.

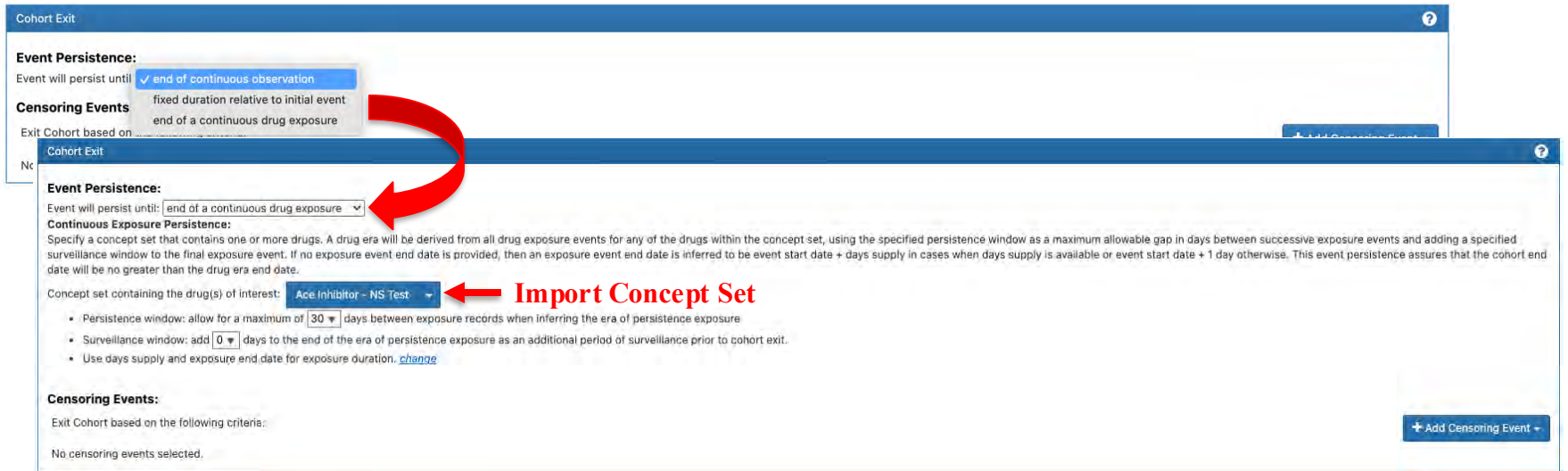
4. Time Parameters

- Add Demographic
- Add Condition Era
- Add Condition Occurrence**
- Add Death
- Add Device Exposure
- Add Dose Era
- Add Drug Era
- Add Drug Exposure
- Add Location Region
- Add Measurement
- Add Observation
- Add Observation Period
- Add Payer Plan Period
- Add Procedure Occurrence
- Add Specimen
- Add Visit

1. Add text description (i.e. have a prior diagnosis of hypertension)
2. Add criteria to group (i.e. Add Condition Occurrence)
3. Import Concept Set (i.e. Hypertension – NS test)
4. Define when the event (i.e. Hypertension) should occur relative to the index start date (aka Cohort entry event)

ATLAS – Cohort Definitions: Cohort Exit

- ▶ Define how a person leaves the cohort
 - select from the drop-down menu that the event will persist until a selected end
- ▶ Remember to SAVE cohort definition 



Cohort Exit

Event Persistence:
Event will persist until: end of continuous observation

Censoring Events
fixed duration relative to initial event
end of a continuous drug exposure

Exit Cohort based on

Cohort Exit

Event Persistence:
Event will persist until: end of a continuous drug exposure

Continuous Exposure Persistence:
Specify a concept set that contains one or more drugs. A drug era will be derived from all drug exposure events for any of the drugs within the concept set, using the specified persistence window as a maximum allowable gap in days between successive exposure events and adding a specified surveillance window to the final exposure event. If no exposure event end date is provided, then an exposure event end date is inferred to be event start date + days supply in cases when days supply is available or event start date + 1 day otherwise. This event persistence assures that the cohort end date will be no greater than the drug era end date.

Concept set containing the drug(s) of interest: **Import Concept Set**

- Persistence window: allow for a maximum of days between exposure records when inferring the era of persistence exposure
- Surveillance window: add days to the end of the era of persistence exposure as an additional period of surveillance prior to cohort exit.
- Use days supply and exposure end date for exposure duration. [change](#)

Censoring Events:
Exit Cohort based on the following criteria:
No censoring events selected.

[+ Add Censoring Event](#)

ATLAS – Cohort Definitions: Generate Cohort

From the **Generation** tab, generate your cohort

created by son01 on 2023-10-08 15:21 , modified by son01 on 2023-10-08 17:33

New Users of ACE inhibitors with a prior diagnosis of hypertension

Generation

Available CDM Sources

Source Name	Generation Status	People	Records	Generated	Generation Duration
MSDW2	n/a	n/a	n/a	n/a	n/a
MSDW_PRD_deid	COMPLETED	60,066	60,066	10/08/2023 5:34 PM	00:04:06
New Source	n/a	n/a	n/a	n/a	n/a

Inclusion Report

Inclusion Report for MSDW_PRD_deid

Match Rate	Matches	Total Events
45.76%	60,066	131,268

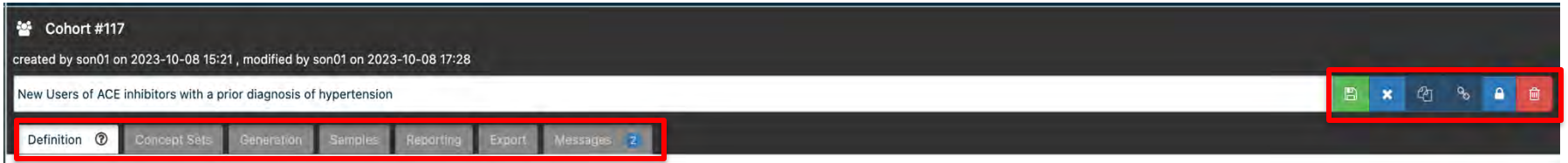
Inclusion Rule

Inclusion Rule	N	% Satisfied	% To-Gain
1. have a prior diagnosis of hypertension	60,066	45.76%	54.24%

Population Visualization

Switch to attrition view

ATLAS – Cohort Definitions: Additional Features



- **Concept Sets** – review concept sets within your definition
- **Export** – review a full description of what the Cohort Definition represents
- **Messages** – review warnings or memos regarding potential errors or incomplete aspects of the defined search criteria

- ✕ Close Cohort Definition
- 📄 Copy
- 🔗 Create Link to Share Direct Access
- 🔒 Configure Access
- 🗑️ Delete

ATLAS – Patient List Extraction

- If you are interested in extracting the patient list, you can put in a JIRA ticket with the following details:

Question

ATLAS Cohort Patient List

Please ask the specific question here.

Description

Cohort Definition ID:
Cohort Definition Name:

<https://scicomp.mssm.edu/jira/serviceesk/customer/portal/4/create/100>

Cohort Definitions

Column visibility Copy CSV Show 15 entries

Showing 1 to 15 of 79 entries

Id	Name
117	New Users of ACE inhibitors with a prior diagnosis of hypertension
116	Oral PID
115	Test Cohort
114	Pts with Surgeries 9.1.22 - 8.31.23
113	Lung onc
112	Total Shoulder Arthroplasty
111	DMBCwomed
101	# Patients with Diabetes during CY2022
104	Pediatric ECMO 3.8.2023
100	...

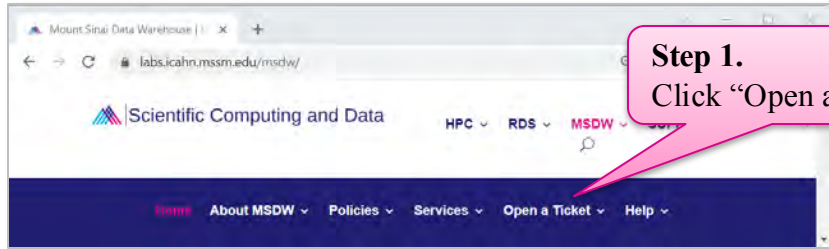
MSDW Custom Data Request

When You Need Custom Data

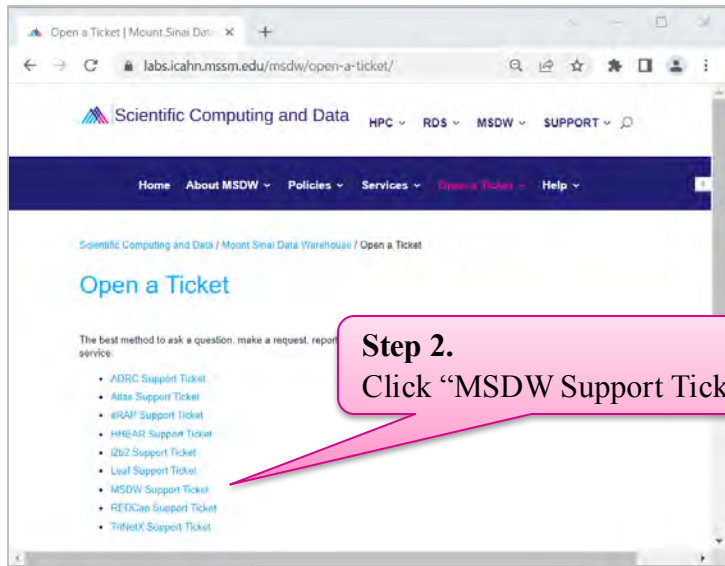
- ▶ Complex question that cannot be answered with one of the self-service query tools
- ▶ Need additional data that is not included in a de-identified data set
- ▶ Need PHI data for your analysis

<https://scicomp.mssm.edu/jira/servicedesk/customer/portal/4>

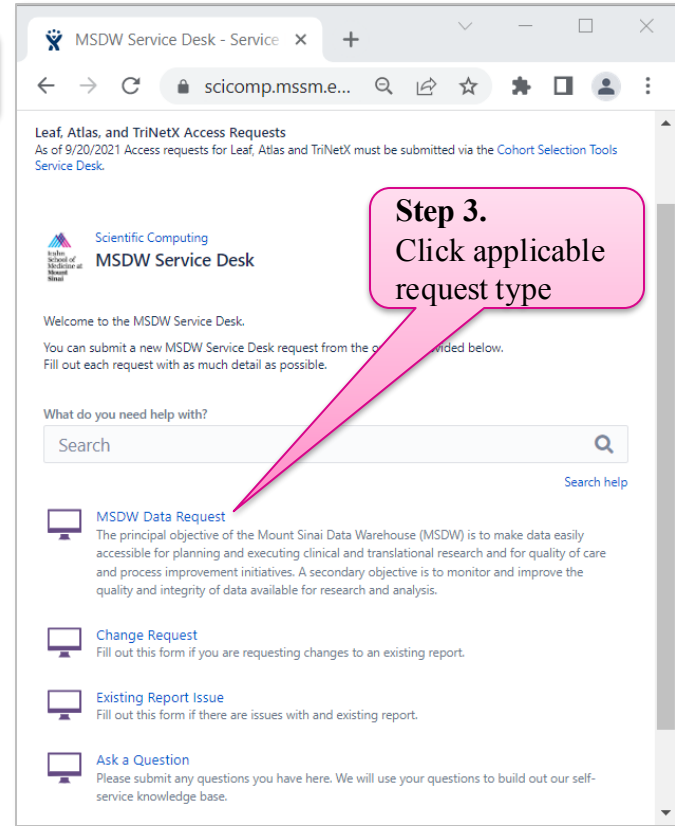
How to Open an MSDW Request Ticket



Step 1.
Click “Open a Ticket”

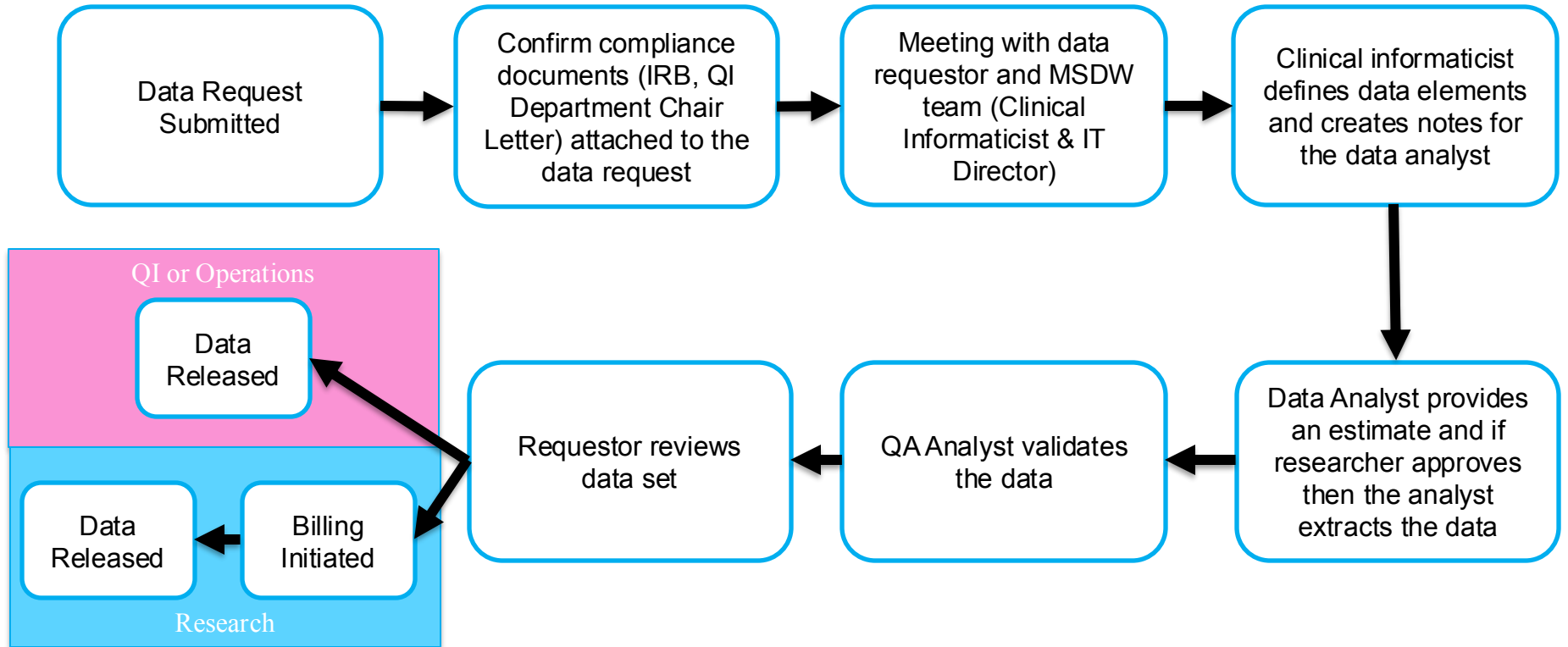


Step 2.
Click “MSDW Support Ticket”



Step 3.
Click applicable
request type

Workflow Once Data Request Submitted



JIRA ticketing system used to monitor the status of data requests

Acknowledgements

Encourage MSDW Users to Acknowledge CTSA

Mount Sinai Data Warehouse | S x +

https://labs.icahn.mssm.edu... Sign in

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<https://redcap.mountsinai.org/redcap/surveys/?s=HPEMDCYLNTXF3E3E>

For 20 or more publications, email Maria at marajulia.castro@mssm.edu

Learn more about MSDW and Clinical Query tools from the links below:

<https://labs.icahn.mssm.edu/msdw/>

<https://labs.icahn.mssm.edu/msdw/services/>

<https://labs.icahn.mssm.edu/msdw/data-sources/>

“Walk-in” Digital Concierge service hosted by the MSDW

- Every Wednesday from 3:30 PM to 4:30 PM



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Thank you!

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