

The APAC-VALUE Study Protocol

A Global Characterisation Study of Valproate Utilisation and Exposure among Men and Women of Childbearing Age

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Presenter: Jason C. Hsu





The APAC-VALUE study: A global characterisation study of VALproate Utilisation and Exposure among men and women of childbearing age

- Valproate has long been an effective therapy for epilepsy, but growing global regulatory attention has highlighted the potential risks of neurodevelopmental disorders in children exposed *in utero*. While much of the focus has been on use in pregnancy, more **recently several, but not all**, regulatory agencies have issued safety warnings on the use of valproate in men prior to conception and **neurodevelopmental risk** (and other risks?) in offspring.
- **Aim:** to describe utilisation patterns, trends, and population characteristics to understand how safety warnings translate into real-world practice across different regulatory jurisdictions.

Nicole Pratt (2026.05.21) OHDSI APAC Community Call

Investigators (20 collaborators from 7 Countries currently)



■ Overarching Protocol & Package Development Team:

- Australia: Nicole Pratt; Jack Janetzki (Adelaide University)
- Taiwan: Jason C. Hsu; Nguyen Thi Kim Hien; Septi Melisa (Taipei Medical University, TMU)
- Vietnam: Thanh Phuc Phan (University Medical Center Ho Chi Minh City)

■ Network Collaborators:

- Korea: Seng Chan You; Gaeun Lee; Jiwon Um; Subin Kim (Yonsei University Health System, YUHS)
- Taiwan: Muhammad Hanif Amiruddin (TMU); Thu Le-Quang (TMU)
- Australia: Christine Lu (University of Sydney); Bianca Varney (University of New South Wales, UNSW)
- Singapore: Cynthia Sung; Lynette Tan
- Japan: Tatsuo Hiramatsu; Liying Pei
- Thailand: Natthawut (Max) Adulyanukosol; Suchanan Kanjanapong

Version



Number	Date	Section of study protocol	Amendment or update	Reason
1	2026-06-15	All sections	Initial Draft (Version 1): Protocol conceptualization and initial drafting. Co-authored and drafted by Jack Janetzki, Jason C. Hsu, and Nicole Pratt.	

Background



- The Clinical **Dilemma**: Valproate is a **first-line** anchor for epilepsy, but carries potential **reproductive** and **developmental** risks.
- **Maternal Risk** (Established): In **utero** exposure results in a **10%** risk of major **congenital malformations** and **cognitive disorders**.
- **Paternal Risk** (potential): Recent data shows significantly increased **neurodevelopmental disorder (NDD)** risks via paternal exposure within **3 months** prior to **conception** (but potential for bias in study approach).
- The Evidence **Gap**: **Regulatory** approaches to valproate have **varied** substantially **across countries**, yet their **impact** on **prescribing patterns** and **treatment substitution** in the **Asia-Pacific region** remains **unknown**.
(Bianca)

Aims



- **Primary Objective:** To evaluate the real-world **impact** of multi-wave **safety warnings** on **Valproate** prescribing dynamics among **reproductive-age men** and **women** with **epilepsy**.
 - **Aim 1: Baseline Clinical Characterisation:** To describe and compare baseline **demographics**, **comorbidities**, and **co-medications** across epochs.
 - **Aim 2: Longitudinal Prescribing Trends:** To evaluate **25-year** (2000–2025) longitudinal trends in Valproate prescribing frequencies stratified by **country**, **gender** and **age group**.

Methods : Data Sources



Table 1. Data sources formatted to the OMOP CDM participating in the study

Data source	Source population	Sample size	Data type	Longitudinal history
TMUCRD (Taipei Medical University Clinical Research Database)	Patients managed across the TMU healthcare system (affiliated hospitals) in Taiwan	4.3 M	Electronic Health Records (EHR)	2000–2023
Australia (PBS dispensing data)	Entire population of Australia	28M	Claims data	1999-2025
[e.g. South Korea]				

Methods : Study design



■ Study Design & Framework

- **Type:** Multinational, retrospective, longitudinal policy-evaluative and drug utilisation study.
- **Infrastructure:** Distributed/Federated network study utilizing routinely collected healthcare data mapped to the OMOP CDM.
- **Analytics Model:** Standardized analytical packages executed locally by data partners; only aggregate results are shared for central synthesis (No patient-level data transmission).
- **Target Exposure:** Males and females of reproductive age with documented exposure to Valproate formulations.
- **Consistency:** Identical inclusion criteria, cohort definitions, and analytical procedures across all databases to ensure valid cross-site comparisons.

■ Study Period

- **Timeline:** January 1, 2000, to December 31, 2023.
- **Data Contribution:** Each database contributes from its earliest date meeting OHDSI data quality requirements through its most recent available record.

Methods : Target cohort (Inclusion/Exclusion Criteria)



■ Inclusion Criteria

- All patients from the Database (2000-2023)

■ Exclusion Criteria

- Age <18 years old at the index date.
- Age >49 years old at the index date.
- Without prescription of Valporate (N=___)

Note: NO restrictions on prior medication lines during base cohort entry.

Methods : Index Date and Time Windows



■ Index Date Setup:

1. Cohort Entry (**Baseline** Profiles): Defined as the date of the **first recorded Valporate prescription** within the study period. Establishes a unified baseline.
2. Longitudinal **Prescribing Trends** (**Annual/monthly** Analysis): Active evaluation points for **each calendar year**.
 - **Treated patients**: Date of **any anti-epileptic prescription**/dispensing within that year/month.
 - **Drug-naïve patients**: Date of **any clinical encounter**/follow-up for **epilepsy** within that year/month.

■ **Baseline** Lookback **Window**: **365 days prior to index date** for covariate extraction.

Methods : Stratifications



■ Standard Stratifications:

- Country/Database
- Gender
- Age Groups (18-30, 31-40, 41-49?)

■ Temporal Subgroups (Four Mutually Exclusive Policy Epochs):

1. **Period 1 (Pre-Wave 1 Baseline) [2000–2018]:** Captures historical clinical practice patterns prior to strict international female Pregnancy Prevention Programmes (PPP).
2. **Period 2: Post-Wave 1 / Pre-Wave 2 Era [2018–2023]:** Wave 1 Impact: Evaluates long-term clinical adaptation and prescribing transitions following global female pregnancy restrictions. Wave 2 Baseline: Serves as the contemporary pre-intervention baseline immediately preceding paternal safety warnings.
3. **Period 3: Post-Wave 2 Contemporary [2023–2025]:** Wave 2 Impact: Monitors modern clinical compliance and rapid prescribing shifts following the international implementation of paternal safety advisories.

Methods : Variables of interest (Baseline Features)

■ Demographic [This is required for initial analysis]

- **Country** and Database site, **Gender**, **Age**

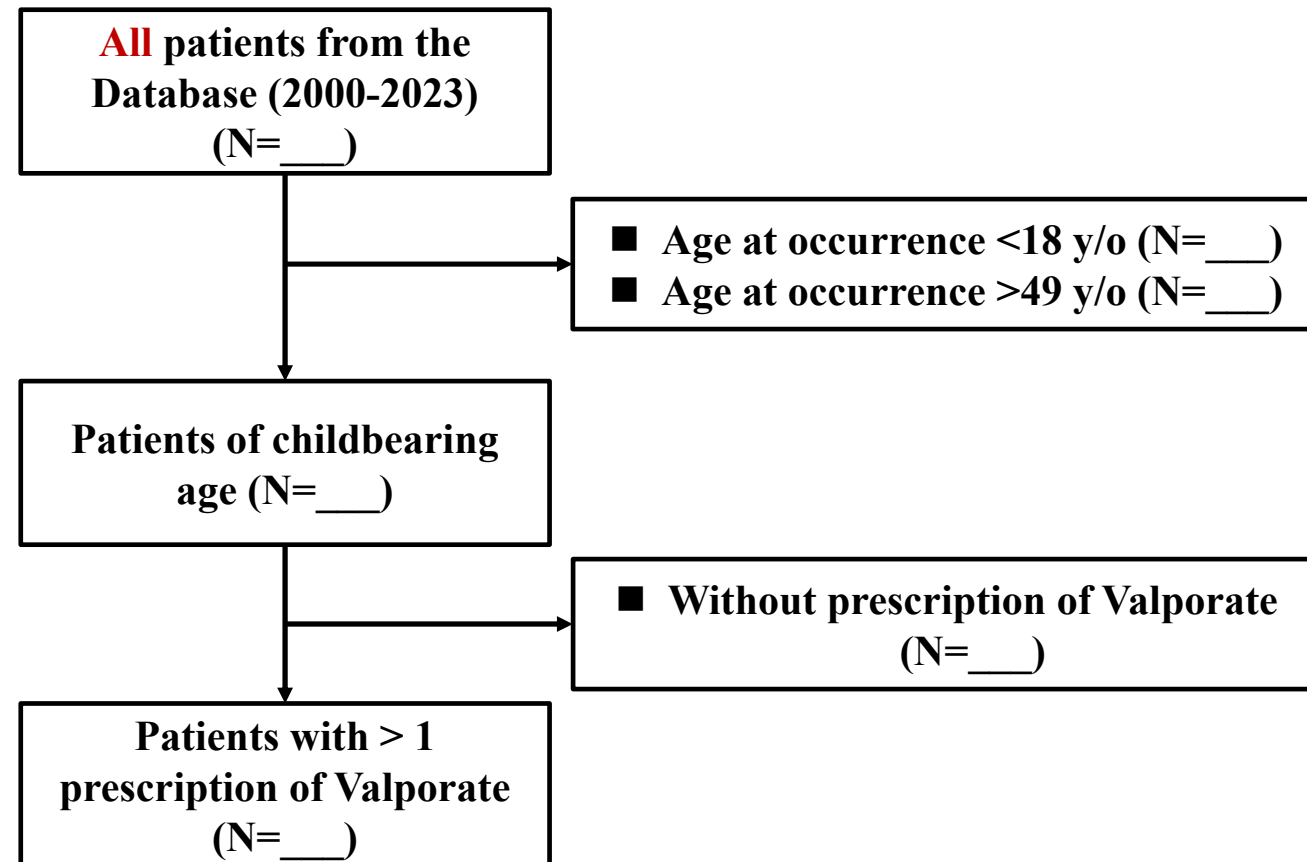
■ Clinical characteristics [This is not required for initial analysis]

- **Epilepsy Phenotypes**: Mapped via standard concept clusters to distinguish **generalized** epilepsy, **focal** epilepsy, and unclassified status.
- **Psychiatric Comorbidities**: **Bipolar** disorder, **major depressive** disorder, **anxiety** disorders, **schizophrenia**, and substance use disorders.
- **Neurological & Neurodevelopmental Conditions**: **Migraine**, **intellectual disability**, and **autism spectrum disorders** (essential for establishing population-level baseline reference codes).

■ Medication use [This is not required for initial analysis]

- **Target and Alternative Anti-Epileptic Drugs (AEDs)**: **Valproate** (tracked as monotherapy and combination formulations independently), **Lamotrigine**, **Levetiracetam**, **Carbamazepine**, **Topiramate**, **Phenytoin**, **Oxcarbazepine**, **Sodium Channel Blockers**, **Gabapentin**, **Pregabalin**, and **Lacosamide**.
- **Concomitant Psychotropic Medications**: **Lithium**, atypical and typical antipsychotics, selective and non-selective antidepressants, and benzodiazepines.

Results : Cohort Selection (Figure 1)



Results : Aim 1: Baseline Clinical Characterisation (Table 1)

Category	Variables	Results
Demographic	Male (N; %)	
	Age (mean)	
	Age (18-30)	
	Age (31-40)	
	Age (41-49)	
Comorbidities	Epilepsy	
	Bipolar disorder	
	Migraine	
	...	

Results : Aim 2: Prescription Trends (Figure 2)

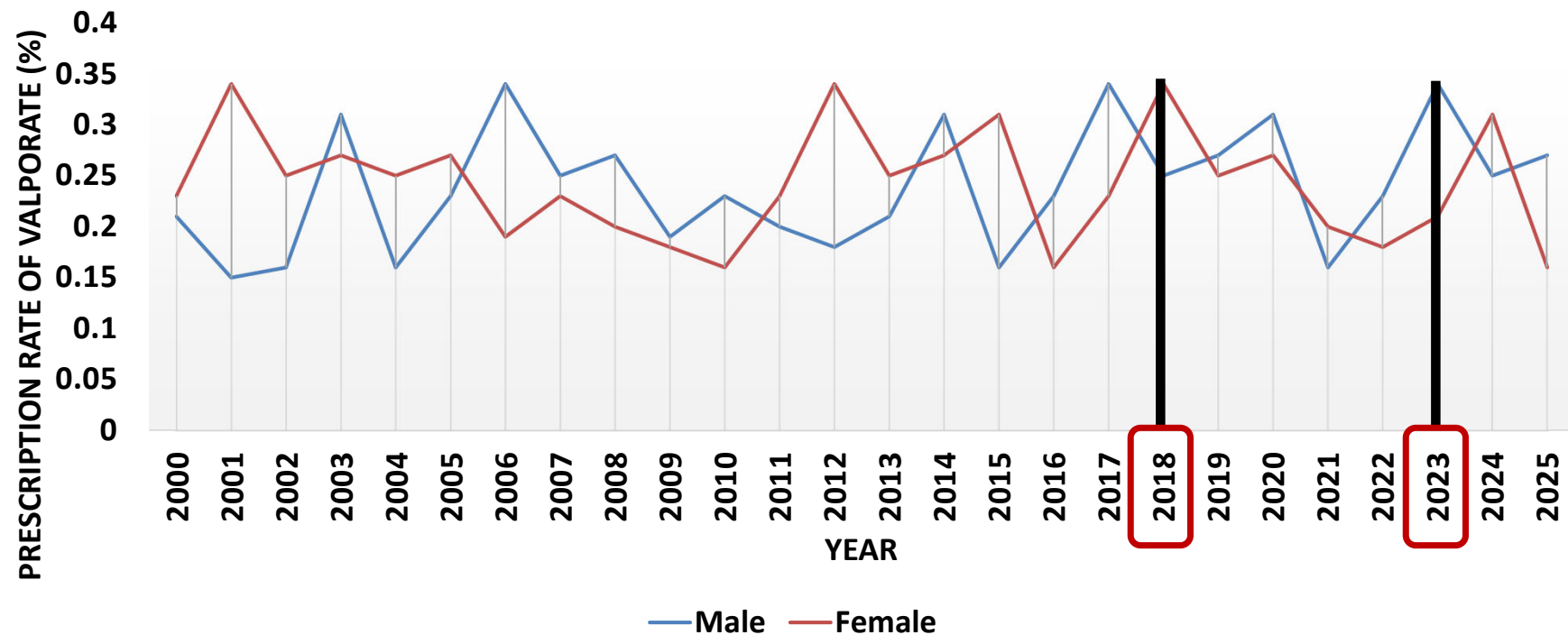


Year	N total patients (male)	N valporate users (male)	Rate of valporate use (male)	N total patients (female)	N valporate users (female)	Rate of valporate use (female)
2000						
2001						
2002						
2003						
2004						
2005						
2006						
2007						
2008						
2009						
2010						
2011						
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						
2021						
2022						
2023						

Results : Aim 2: Prescription Trends (Figure 2)



Example: Database (Country) Age group: 18-30





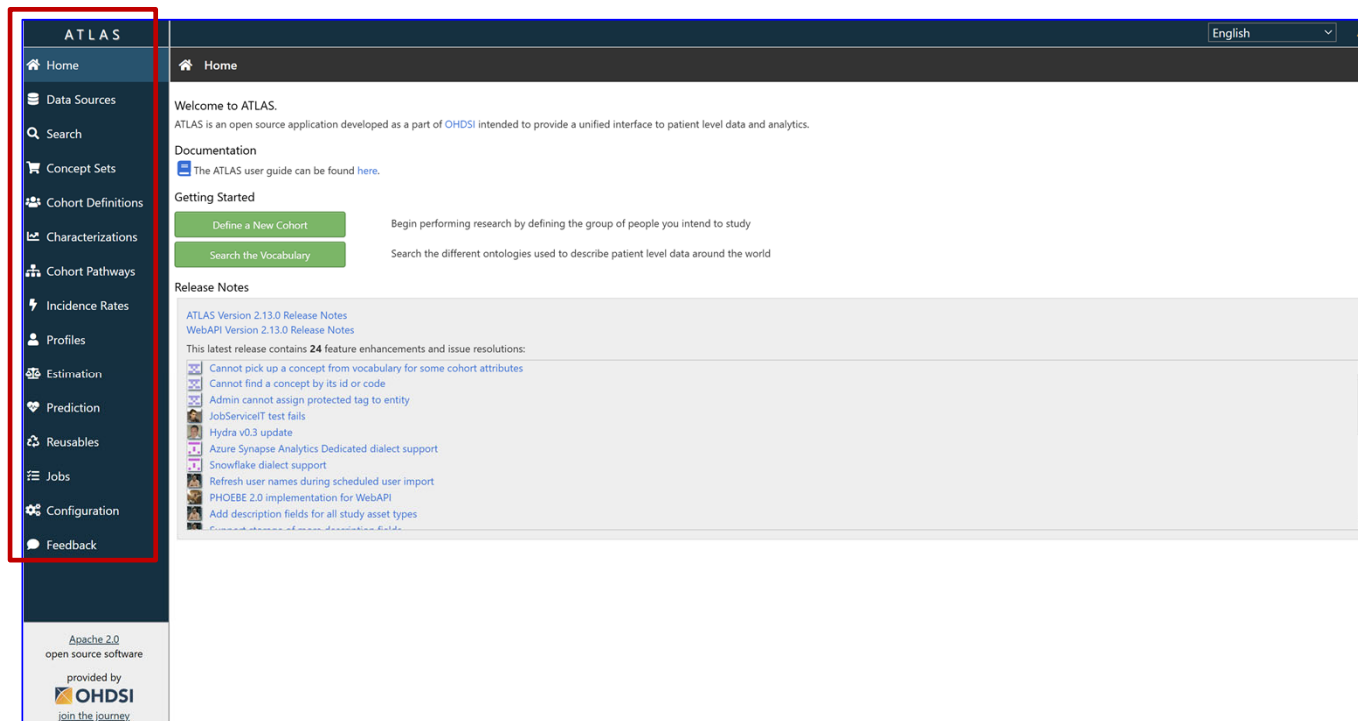
OHDSI (ATLAS)

Jason C. Hsu

President, OHDSI Taiwan Society
Professor, College of Management, Taipei Medical University, Taiwan

ATLAS

atlas-demo.ohdsi.org/



Main Function

A visual research design platform:

- 1) cohort selection
- 2) characterization analysis
- 3) Incidence rate
- 4) Estimation study
- 5) Prediction study

Terminology



- **Concept sets** provides the ability to create collections of **logical expressions** that can be used to identify a set of concepts to be used **throughout your standardized analyses**. **Searching the vocabulary, identifying the set of concepts, and specifying the logic** to be used to resolve a concept set provides a **powerful mechanism** for **defining the often obscure medical language** used in analysis plans.
- **Cohort definitions** is the ability to construct **a set of persons** who **satisfy one or more criteria** for **a duration of time** and these cohorts can then **serve as the basis of inputs** for all of your subsequent analyses.
- **Characterizations** is an analytic capability that allows you to look at one or more cohorts that you've defined and to **summarize characteristics about those patient populations**.
- **Cohort (Treatment) pathways** is an analytic tool that allows you to look at the **sequence of clinical (treatment) events** that **occur within one or more populations**.
- **Incidence rates** is a tool that allows you to **estimate the incidence of outcomes** within target populations of interest.
- **Estimation study** is a capability to allow you to define a population level effect estimation study using **a comparative cohort design** whereby comparisons **between one or more target and comparator cohorts** can be explored for **a series of outcomes**.
- **Prediction study** is a capability to allow you to apply **machine learning algorithms** to conduct **patient level prediction analyses** whereby you can **predict an outcome** within any given target exposures.

Example



■ Study process

1. Create a new study
2. Concept set
3. Cohort definition : Figure 1
4. Cohort characterization : Table 1
5. Treatment Pathway: Figure 2

-
6. Estimation study
 7. Prediction study

Example

1. Create a new study



ATLAS

Home

Data Sources

Search

Concept Sets

Cohort Definitions

Characterizations

Cohort Pathways

Incidence Rates

Profiles

Estimation

Prediction

Reusables

Jobs

Cohort Definitions

English

New Cohort

Show columns Copy CSV Show 50 entries

Showing 1 to 50 of 696 entries

Id	Name	Created	Updated	Author
867	[Jason] DKD	03/25/2025 1:34 PM	03/25/2025 1:34 PM	anonymous
866	DKD by Christianus	03/25/2025 1:23 PM	03/25/2025 1:23 PM	anonymous
865	[SGLT2i] Patients with Advanced Chronic Kidney Disease (TZD)	03/21/2025 10:52 AM	03/21/2025 10:53 AM	anonymous
864	[SGLT2i] Patients with Advanced Chronic Kidney Disease (DPP4i)	03/21/2025 10:52 AM	03/21/2025 10:52 AM	anonymous
863	[SGLT2i] Patients with Advanced Chronic Kidney Disease (CV mortality)	03/21/2025 10:08 AM	03/21/2025 10:09 AM	anonymous
862	[SGLT2i] Patients with Advanced Chronic Kidney Disease (Stroke)	03/21/2025 10:08 AM	03/21/2025 10:08 AM	anonymous
861	[SGLT2i] Patients with Advanced Chronic Kidney Disease (MI)	03/21/2025 10:07 AM	03/21/2025 10:08 AM	anonymous
859	[SGLT2i] Patients with Advanced Chronic Kidney Disease (nonSGLT2i)	03/19/2025 6:20 PM	03/21/2025 9:57 AM	anonymous
860	[SGLT2i] Patients with Advanced Chronic Kidney Disease (Outcome)	03/19/2025 6:26 PM	03/19/2025 6:29 PM	anonymous
858	[SGLT2i] Patients with Advanced Chronic Kidney Disease (SGLT2i)	03/17/2025 7:41 PM	03/19/2025 6:18 PM	anonymous
857	COPY OF Base Cohort LEGEND T2DM	02/26/2025 12:01 PM	02/26/2025 12:09 PM	anonymous
856	lung_cancer	02/10/2025 4:44 PM	02/10/2025 4:44 PM	anonymous
852	[SM] 6 month DAPT after CAD diagnosis	01/09/2025 4:37 PM	01/17/2025 5:37 PM	anonymous

Example

1. Create a new study



ATLAS English

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

Cohort #1797101
Created by anonymous on 2016-04-25 21:22

[Jason] Example 1_DKD_4

Definition Concept Sets Generation Samples Reporting Export Versions Messages

Enter a cohort definition description here

Cohort Entry Events

Events having any of the following criteria:

+ Add Initial Event...

a condition occurrence of CKD

+ Add attribute...

with age Greater or Equal To 18

+ Delete Criteria

with continuous observation of at least 365 days before and 0 days after event index date

Limit initial events to: earliest event per person.

Restrict initial events

Inclusion Criteria

New inclusion criteria

1. T2DM

Limit qualifying events to: earliest event per person.

Cohort Exit

Event Persistence:

Event will persist until: end of continuous observation

Censoring Events:

Example 2. Concept set



ATLAS

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

Cohort #1797101
created by anonymous on 2026-04-25 21:22

[Jason] Example CKD_4

Definition Concept Sets Generation Samples Reporting Export Versions Messages

New Concept Set Import Export All Concept Sets To CSV

Show 10 entries

Id	Title
0	CKD
1	T2DM

Showing 1 to 2 of 2 entries

Filter: Search...

Previous 1 Next

Example 2. Concept set



ATLAS English

Cohort #1797101
created by anonymous on 2026-04-25 21:22

[Jason] Example_1_DKD_4

Definition | **Concept Sets** | Generation | Samples | Reporting | Export | Versions | Messages 3

New Concept Set Import Export All Concept Sets To CSV

Show 10 entries

Id	Title
0	CKD
1	T2DM

Showing 1 to 2 of 2 entries

Previous 1 Next

Concept Set Expression Included Concepts 144 Included Source Codes Recommend Export Import

Name: CKD

Showing 1 to 1 of 1 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
46271022	709044004	Chronic kidney disease	Condition	Standard	☒	☒	☐

Showing 1 to 1 of 1 entries

Classification Non-Standard Standard

Add Concepts Remove Selected Delete Concept Set Copy To Concept Set Repository Close Concept Set

Apache 2.0

Example 2. Concept set



ATLAS

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

Search: chronic kidney disease

View record count for: SYNPUF 5%

Filter: Search...

Showing 1 to 50 of 257 entries

Id	Code	Name	Class	RC	DRC	PC	DPC	Domain	Vocabulary
443597	433144002	Chronic kidney disease stage 3	Disorder	50,510	50,510	22,605	22,605	Condition	SNOMED
46271022	709044004	Chronic kidney disease	Disorder	46,422	313,770	25,101	117,277	Condition	SNOMED
443612	431857002	Chronic kidney disease stage 4	Disorder	28,371	28,371	13,218	13,218	Condition	SNOMED
443611	433146000	Chronic kidney disease stage 5	Disorder	11,433	11,433	5,514	5,514	Condition	SNOMED
443601	431856006	Chronic kidney disease stage 2	Disorder	6,464	6,464	4,626	4,626	Condition	SNOMED
443614	431855005	Chronic kidney disease stage 1	Disorder	3,495	3,495	2,727	2,727	Condition	SNOMED
43021852	285831000119108	Malignant hypertensive chronic kidney disease	Disorder	1,489	1,489	1,383	1,383	Condition	SNOMED
45768812	707323002	Anemia in chronic kidney disease	Disorder	0	67,941	0	17,589	Condition	SNOMED
44782429	104931000119100	Chronic kidney disease due to hypertension	Disorder	0	2,799	0	2,604	Condition	SNOMED
37017104	713313000	Chronic kidney disease mineral and bone disorder	Disorder	0	2,952	0	1,913	Condition	SNOMED
36715044	720510004	Education about chronic kidney disease	Procedure	0	9	0	9	Observation	SNOMED
37019193	691421000119108	Anemia co-occurrent and due to chronic kidney disease stage 3	Disorder	0	0	0	0	Condition	SNOMED
602143	691381000119104	Anemia due to chronic kidney disease stage 1	Disorder	0	0	0	0	Condition	SNOMED
37398911	691401000119104	Anemia in chronic kidney disease stage 4	Disorder	0	0	0	0	Condition	SNOMED
37395652	691411000119101	Anemia in chronic kidney disease stage 5	Disorder	0	0	0	0	Condition	SNOMED
44782675	698463001	At increased risk of chronic kidney disease	Clinical Finding	0	0	0	0	Observation	SNOMED
3519348	511551000000102	At risk of chronic kidney disease	Clinical Finding	0	0	0	0	Observation	SNOMED
3581761	511561000000104	At risk of chronic kidney disease	Undefined	0	0	0	0	Observation	SNOMED
44791021	249171000000102	Chronic kidney disease annual review	Procedure	0	0	0	0	Observation	SNOMED
3554556	253231000000107	Chronic kidney disease annual review	Undefined	0	0	0	0	Observation	SNOMED

Select Concept Set: CKD (Cohort Definition) | ☐ Exclude | ☒ Descendants | ☐ Mapped | Preview... | Add To Concept Set

Example 2. Concept set



ATLAS

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

Cohort #1797101
created by anonymous on 2026-04-25 21:22

[Jason] Example_1_DKD_4

Definition | **Concept Sets** | Generation | Samples | Reporting | Export | Versions | Messages 3

New Concept Set | Import | Export All Concept Sets To CSV

Show 10 entries

Id	Title
0	CKD
1	T2DM

Showing 1 to 2 of 2 entries

Previous 1 Next

Concept Set Expression | Included Concepts 19 | Included Source Codes | Recommend | Export | Import

Name: T2DM

Show 25 entries

Showing 1 to 1 of 1 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
☒	201826	44054006	Type 2 diabetes mellitus	Condition	Standard	☒	☒

Classification: ☒ Non-Standard ☒ Standard

Add Concepts | Remove Selected | Delete Concept Set | Copy To Concept Set Repository | Close Concept Set

Example 2. Concept set



ATLAS

Home Data Sources **DIABETES** Search

Search

Concept Sets

Cohort Definitions

Characterizations

Cohort Pathways

Incidence Rates

Profiles

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Reusables

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Configuration

Feedback

Apache 2.0
open source software
provided by

Showing 1 to 50 of 1,662 entries

Showing 1 to 50 of 1,662 entries

Class RC DRC PC DPC Domain Vocabulary

☐	201826	44054006	Type 2 diabetes mellitus	Disorder	612,861	612,861	78,628	78,628	Condition	SNOMED
☐	40482801	443694000	Type II diabetes mellitus uncontrolled	Clinical Finding	94,671	94,671	36,304	36,304	Condition	SNOMED
☐	201254	46635009	Type 1 diabetes mellitus	Disorder	45,392	45,392	24,943	24,943	Condition	SNOMED
☐	195771	8801005	Secondary diabetes mellitus	Disorder	36,269	36,269	25,158	25,158	Condition	SNOMED
☐	376065	421326000	Disorder of nervous system due to type 2 diabetes mellitus	Disorder	34,024	37,313	20,404	23,251	Condition	SNOMED
☐	443732	422014003	Disorder due to type 2 diabetes mellitus	Disorder	26,203	114,430	16,064	70,942	Condition	SNOMED
☐	443731	420279001	Renal disorder due to type 2 diabetes mellitus	Disorder	23,731	23,731	12,272	12,272	Condition	SNOMED
☐	443729	422166005	Peripheral circulatory disorder due to type 2 diabetes mellitus	Disorder	19,553	19,553	13,405	13,405	Condition	SNOMED
☐	443767	25093002	Disorder of eye due to diabetes mellitus	Disorder	13,715	44,751	9,099	30,113	Condition	SNOMED
☐	376683	390834004	Nonproliferative retinopathy due to diabetes mellitus	Disorder	12,216	16,934	7,397	10,784	Condition	SNOMED
☐	40484648	444073006	Type 1 diabetes mellitus uncontrolled	Clinical Finding	7,757	7,757	4,715	4,715	Condition	SNOMED
☐	435216	420868002	Disorder due to type 1 diabetes mellitus	Disorder	7,476	30,735	6,142	25,998	Condition	SNOMED
☐	377821	421468001	Disorder of nervous system due to type 1 diabetes mellitus	Disorder	6,613	9,117	5,292	7,747	Condition	SNOMED
☐	380096	59276001	Proliferative retinopathy due to diabetes mellitus	Disorder	5,840	5,840	3,529	3,529	Condition	SNOMED
☐	318712	421365002	Peripheral circulatory disorder due to type 1 diabetes mellitus	Disorder	5,071	5,071	4,364	4,364	Condition	SNOMED
☐	442793	74627003	Complication due to diabetes mellitus	Disorder	4,876	205,512	4,560	142,440	Condition	SNOMED
☐	200687	421893009	Renal disorder due to type 1 diabetes mellitus	Disorder	4,841	4,841	3,823	3,823	Condition	SNOMED
☐	443734	421750000	Ketoacidosis due to type 2 diabetes mellitus	Disorder	4,631	4,631	3,657	3,657	Condition	SNOMED
☐	373999	421165007	Diabetic oculopathy associated with type 1 diabetes mellitus	Disorder	4,094	4,094	3,412	3,412	Condition	SNOMED
☐	443735	420662003	Coma due to diabetes mellitus	Disorder	3,910	9,703	3,644	8,946	Condition	SNOMED
☐	201530	190331003	Hyperosmolar coma due to type 2 diabetes mellitus	Disorder	3,289	3,289	2,847	2,847	Condition	SNOMED

Select Concept Set T2DM (Cohort Definition) ☐ Exclude ☒ Descendants ☐ Mapped Preview... Add To Concept Set

Example 2. Concept set



ATLAS English

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

Cohort #1797101
created by anonymous on 2026-04-25 21:22

[Jason] Example_1_DKD_4

Definition Concept Sets Generation Samples Reporting Export Versions Messages 3

New Concept Set Import Export All Concept Sets To CSV

Show 10 entries

Id	Title
0	CKD
1	T2DM

Showing 1 to 2 of 2 entries

Concept Set Expression Included Concepts 12 Included Source Codes Recommend Export Import

Name: T2DM

Show 25 entries

Showing 1 to 1 of 1 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
☒	201826	44054006	Type 2 diabetes mellitus	Condition	Standard	☒	☒

Classification Non-Standard Standard

Add Concepts Remove Selected Delete Concept Set Copy To Concept Set Repository Close Concept Set

Apache 2.0

Example 2. Concept set



ATLAS

Definition Concept Sets Generation Samples Reporting Export Versions Messages 3

New Concept Set Import Export All Concept Sets To CSV

Show 10 entries Filter Search...

Id Title

0 CKD

1 T2DM

Showing 1 to 2 of 2 entries Previous 1 Next

Concept Set Expression Included Concepts 19 Included Source Codes Recommend Export Import

Show columns Copy CSV Show 25 entries

Showing 1 to 13 of 13 entries

View record count for: SYNPUF 5% Filter Search...

Previous 1 Next

	Id	Code	Name	Class	RC	DRC	PC	DPC	Domain	Vocabulary	Ancestors	
Vocabulary												
SNOMED (13)												
Nebraska Lexicon (5)												
OMOP Extension (1)												
Class												
Disorder (14)												
Clinical Finding (5)												
Domain												
Condition (19)												
Standard Concept												
Standard (19)												
Invalid Reason												
Valid (19)												
Has Records												
false (18)												
true (1)												
Has Descendant Records												
false (18)												
true (1)												
	☐	45757474	1481000119100	Diabetes mellitus type 2 without retinopathy	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	36684827	368101000119109	Diabetes mellitus type 2 with periodontal disease	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	4130162	237599002	Insulin treated type 2 diabetes mellitus	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	37163431	1217044000	Ketosis-resistant diabetes mellitus	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	4063043	199230006	Pre-existing type 2 diabetes mellitus	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	43531010	609567009	Pre-existing type 2 diabetes mellitus in pregnancy	Disorder	0	0	0	0	Condition	SNOMED	1
	☒	4129519	237627000	Pregnancy and type 2 diabetes mellitus	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	401820	44024000	Type 2 diabetes mellitus	Disorder	612,861	612,861	78,628	78,628	Condition	SNOMED	0
	☐	4230254	359642000	Type 2 diabetes mellitus in nonobese	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	4304377	81531005	Type 2 diabetes mellitus in obese	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	4193704	313436004	Type 2 diabetes mellitus without complication	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	4099651	190389009	Type 2 diabetes mellitus with ulcer	Disorder	0	0	0	0	Condition	SNOMED	1
	☐	45766052	703138006	Type II diabetes mellitus in remission	Disorder	0	0	0	0	Condition	SNOMED	1

Showing 1 to 13 of 13 entries Previous 1 Next

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☒ Exclude ☐ Descendants ☐ Mapped Preview... Add To Concept Set

Example 2. Concept set



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WHO Collaborating Centre for
Drug Statistics Methodology

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ATC/DDD methodology

ATC

DDD

Lists of temporary
ATC/DDDs and
alterations

ATC/DDD alterations,
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A ALIMENTARY TRACT AND METABOLISM

A10 DRUGS USED IN DIABETES

A10A INSULINS AND ANALOGUES

A10B BLOOD GLUCOSE LOWERING DRUGS, EXCL. INSULINS

A10X OTHER DRUGS USED IN DIABETES

Last updat

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A ALIMENTARY TRACT AND METABOLISM

A10 DRUGS USED IN DIABETES

A10B BLOOD GLUCOSE LOWERING DRUGS, EXCL. INSULINS

A10BA Biguanides

A10BB Sulfonylureas

A10BC Sulfonamides (heterocyclic)

A10BD Combinations of oral blood glucose lowering drugs

A10BF Alpha glucosidase inhibitors

A10BG Thiazolidinediones

A10BH Dipeptidyl peptidase 4 (DPP-4) inhibitors

A10BJ Glucagon-like peptide-1 (GLP-1) analogues

A10BK Sodium-glucose co-transporter 2 (SGLT2) inhibitors

A10BX Other blood glucose lowering drugs, excl. insulins

Last updated: 2024-12-27

Postal address:
Norwegian Institute of
Public Health

Example 2. Concept set



ATLAS

Home Data Sources Search Concept Sets Cohort Definitions Characterizations Cohort Pathway Incidence Rates Profiles Estimation Prediction Reusables Jobs Configuration

Search

Insulin

Advanced Options

View record count for: TMU CRD

Filter: Search...

Show columns Copy CSV Show 50 entries

	Id	Code	Name	Class	RC	DRC	PC	DPC	Domain	Vocabulary
☐	21602681	H	SYSTEMIC HORMONAL PREPARATIONS, EXCL. SEX HORMONES AND INSULINS	ATC 1st	0	3,603,777	0	1,041,030	Drug	ATC
☐	21600744	A10B	BLOOD GLUCOSE LOWERING DRUGS, EXCL. INSULINS	ATC 3rd	0	5,540,086	0	274,903	Drug	ATC
☒	21600713	A10A	INSULINS AND ANALOGUES	ATC 3rd	0	1,318,429	0	127,918	Drug	ATC
☐	21600728	A10AD	Insulins and analogues for injection, intermediate- or long-acting combined with fast-acting	ATC 4th	0	1,168,640	0	114,486	Drug	ATC
☐	21600714	A10AB	Insulins and analogues for injection, fast-acting	ATC 4th	0	852,526	0	97,605	Drug	ATC
☐	21600729	A10AD01	insulin (human); parenteral	ATC 5th	0	378,707	0	74,336	Drug	ATC
☐	21600715	A10AB01	insulin (human); parenteral	ATC 5th	0	378,707	0	74,336	Drug	ATC
☐	21600735	A10AE	Insulins and analogues for injection, long-acting	ATC 4th	0	396,064	0	22,956	Drug	ATC
☐	21600733	A10AD05	insulin aspart; parenteral	ATC 5th	0	381,763	0	19,352	Drug	ATC
☐	21600719	A10AB05	insulin aspart; parenteral	ATC 5th	0	381,763	0	19,352	Drug	ATC
☐	21600730	A10AD02	insulin (beef); parenteral	ATC 5th	0	324,638	0	17,466	Drug	ATC
☐	1501756	A10AE54	insulin glargine and lisinsanide; systemic	ATC 5th	0	324,638	0	17,466	Drug	ATC

Example 2. Concept set



ATLAS

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Search

Biguanides

Advanced Options

View record count for: TMU CRD

Filter: Search

Previous 1 Next

Show columns Copy CSV Show 50 entries

Showing 1 to 3 of 3 entries

	Id	Code	Name	Class	RC	DRC	PC	DPC	Domain	Vocabulary
☐	21602202	D08AC	Biguanides and amidines	ATC 4th	0	3,106,493	0	1,398,940	Drug	ATC
☒	21600745	A10BA	Biguanides	ATC 4th	0	2,189,407	0	83,221	Drug	ATC
☒	21604892	P01BB	Biguanides	ATC 4th	0	0	0	0	Drug	ATC

Showing 1 to 3 of 3 entries

Previous 1 Next

Vocabulary

ATC (3)

NDFRT (1)

Class

ATC 4th (3)

Chemical Structure (1)

Domain

Drug (4)

Standard Concept

Classification (3)

Non-Standard (1)

Invalid Reason

Valid (4)

Has Records

false (4)

Has Descendant Records

true (2)

false (2)

Has Person Count

false (4)

Example 2. Concept set



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Cohort #1797101
created by anonymous on 2026-04-25 21:22

[[Jason] Example 1_DKD_4

Definition Concept Sets Generation Samples Reporting Export Versions Messages 5

New Concept Set Import Export All Concept Sets To CSV

Show 10 entries

Id	Title
0	CKD
1	T2DM
2	HbA1c

Showing 1 to 3 of 3 entries

Previous 1 Next

Concept Set Expression Included Concepts 0 Included Source Codes Recommend Export Import

Name:
HbA1c

Show 10 entries

Showing 0 to 0 of 0 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
No data available in table							

Add Concepts Remove Selected Delete Concept Set Copy To Concept Set Repository Close Concept Set

Classification Non-Standard Standard

Apache 2.0

Example 2. Concept set



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Search

HbA1c

Advanced Options
View record count for: SYNPUF 5%
Filter: Search...

Show columns Copy CSV Show 50 entries

Showing 1 to 50 of 56 entries

	Id	Code	Name	Class	RC	DRC	PC	DPC	Domain	Vocabulary
☒	2106236	3044F	Most recent hemoglobin A1c (HbA1c) level less than 7.0% (DM)	CPT4	2,868	2,868	2,782	2,782	Observation	CPT4
☒	2106238	3045F	Most recent hemoglobin A1c (HbA1c) level 7.0-9.0% (DM) (Deprecated)	CPT4	1,690	1,690	1,665	1,665	Observation	CPT4
☒	36033143	LP421819-6	Class HbA1c measurement device Devices	LOINC Hierarchy	0	0	0	0	Observation	LOINC
☒	43527958	81506	Endocrinology (type 2 diabetes), biochemical assays of seven analytes (glucose, HbA1c, insulin, hs-CRP, adiponectin, ferritin, interleukin 2-receptor alpha), utilizing serum or plasma, algorithm reporting a risk score	CPT4	0	0	0	0	Measurement	CPT4
☒	3363146	733830002	HbA1c - Glycated haemoglobin-A1c	Substance	0	0	0	0	Observation	Nebraska Lexicon
☒	37171451	3531000237106	HbA1c (glycated haemoglobin A1c)/HbA1 (haemoglobin A1) percent in blood	Observable Entity	0	0	0	0	Measurement	SNOMED
☒	37395558	1049301000000100	HbA1c (haemoglobin A1c) level (diagnostic reference range) - IFCC (International Federation of Clinical Chemistry and Laboratory Medicine) standardised	Observable Entity	0	0	0	0	Measurement	SNOMED
☒	1397656	42W5000	HbA1c (haemoglobin A1c) level (diagnostic reference range) - IFCC (International Federation of Clinical Chemistry and Laboratory Medicine) standardised	Read	0	0	0	0	Measurement	Read
☒	37395559	1049321000000109	HbA1c (haemoglobin A1c) level (monitoring ranges) - IFCC (International Federation of Clinical Chemistry and Laboratory Medicine) standardised	Observable Entity	0	0	0	0	Measurement	SNOMED
☒	1397625	42W5100	HbA1c (haemoglobin A1c) level (monitoring ranges) - IFCC (International Federation of Clinical Chemistry and Laboratory Medicine) standardised	Read	0	0	0	0	Measurement	Read
☒	37208641	1107481000000106	HbA1c (haemoglobin A1c) substance concentration in blood	Observable Entity	0	0	0	0	Measurement	SNOMED

Select Concept Set HbA1c (Cohort Definition) ☐ Exclude ☒ Descendants ☐ Mapped Preview... Add To Concept Set

Example 2. Concept set



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Apache 2.0

English

Cohort #867
created by anonymous on 2025-03-25 13:34

[Jason] DKD

Definition Concept Sets Generation Samples Reporting Export Versions Messages 6

New Concept Set Import Export All Concept Sets To CSV

Show 10 entries

Id	Title
3	Biguanides
1	CKD
2	Insulin
4	Sulfonylureas
0	TZDM

Showing 1 to 5 of 5 entries

Previous 1 Next

Concept Set Expression Included Concepts 5874 Included Source Codes Recommend Export Import

Name:
Sulfonylureas

Show 25 entries

Filter: Search...

Showing 1 to 1 of 1 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
☒	21600749	A10BB	Sulfonylureas	Drug	Classification	☒	☒

Classification Non-Standard Standard

Add Concepts Remove Selected Delete Concept Set Copy To Concept Set Repository Close Concept Set

Example

3. Cohort definition : Figure 1



ATLAS

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

Cohort #1797101
created by anonymous on 2026-04-25 21:22

[Jason] Example_1_DKD_4

Definition Concept Sets Generation Samples Reporting Export Versions Messages 5

Enter a cohort definition description here

Cohort Entry Events

Events having any of the following criteria:

a condition occurrence of CKD
with age Greater or Equal To 18

+ Add attribute... Delete Criteria

+ Add Initial Event...

with continuous observation of at least 365 days before and 0 days after event index date
Limit initial events to: earliest event per person.
Restrict initial events

Inclusion Criteria

New inclusion criteria

1. T2DM
T2DM

Limit qualifying events to: earliest event per person.

Cohort Exit

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

Censoring Events:

Example

3. Cohort definition : Figure 1



ATLAS | Definition | Concept Sets | Generation | Samples | Reporting | Export | Versions | Messages 5

Enter a cohort definition description here

Cohort Entry Events

Events having any of the following criteria:

a condition occurrence of **CKD** with age **Greater or Equal To** **18**

+ Add attribute... Delete Criteria

+ Add Initial Event...

with continuous observation of at least **365** days before and **0** days after event index date

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

restrict initial events

Inclusion Criteria

New inclusion criteria

1. T2DM

T2DM

having **all** of the following criteria:

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

a condition occurrence of **T2DM**

+ Add attribute...

where **event starts** between **1095** days **Before** and **0** days **After** **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

+ Add criteria to group... Delete Criteria

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

Cohort Exit

Example

3. Cohort definition : Figure 1



ATLAS English

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

Cohort #1797101
created by anonymous on 2026-04-25 21:22

[Jason] Example_1_DKD_4

Definition Concept Sets **Generation** Samples Reporting Export Versions Messages 5

Enter a cohort definition description here

Cohort Entry Events

Events having any of the following criteria:

a condition occurrence of CKD

with age Greater or Equal To 18

+ Add attribute... Delete Criteria

+ Add Initial Event...

with continuous observation of at least 365 days before and 0 days after event index date

Limit initial events to: earliest event per person.

Restrict initial events

Inclusion Criteria

New inclusion criteria

1. T2DM

T2DM

having all of the following criteria:

+ Add criteria to group... Delete Criteria

with at least 1 using all occurrences of:

a condition occurrence of T2DM

where event starts between 1095 days Before and 0 days After index start date

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

☐ restrict to the same visit occurrence

☐ allow events from outside observation period

+ Add attribute...

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in the journey

Example

3. Cohort definition : Figure 1



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created by anonymous on 2026-04-25 21:22, modified by anonymous on 2026-04-25 22:26

[Jason] Example_1_DKD_4

Definition

Concept Sets

Generation

Samples

Reporting

Export

Versions

Messages

Generation

☐ Show only sources with results

Show 10 entries

Filter: Search...

Source Name	Generation Status	People	Records	Generated	Generation Duration	
Evidence network counts	COMPLETE	37,820	37,820	04/25/2026 9:22 PM	00:02:04	Generate View Reports
Network prevalence counts	n/a	n/a	n/a	n/a	n/a	Generate View Reports
SYNPUF 1K	COMPLETE	367	367	04/25/2026 9:22 PM	00:00:01	Generate View Reports
SYNPUF 5%	COMPLETE	37,820	37,820	04/25/2026 9:22 PM	00:00:09	Generate Hide Reports

Showing 1 to 4 of 4 entries

Inclusion Report

By Person By Events

Inclusion Report for SYNPUF 5% using 1 event per person

	Match Rate	Matches	Total Events
Summary Statistics:	90.65%	37,820	41,722

Having any of selected criteria passed

☒	Inclusion Rule	N	% Satisfied	% To-Gain
☒	1. T2DM	37,820	90.65%	9.35%

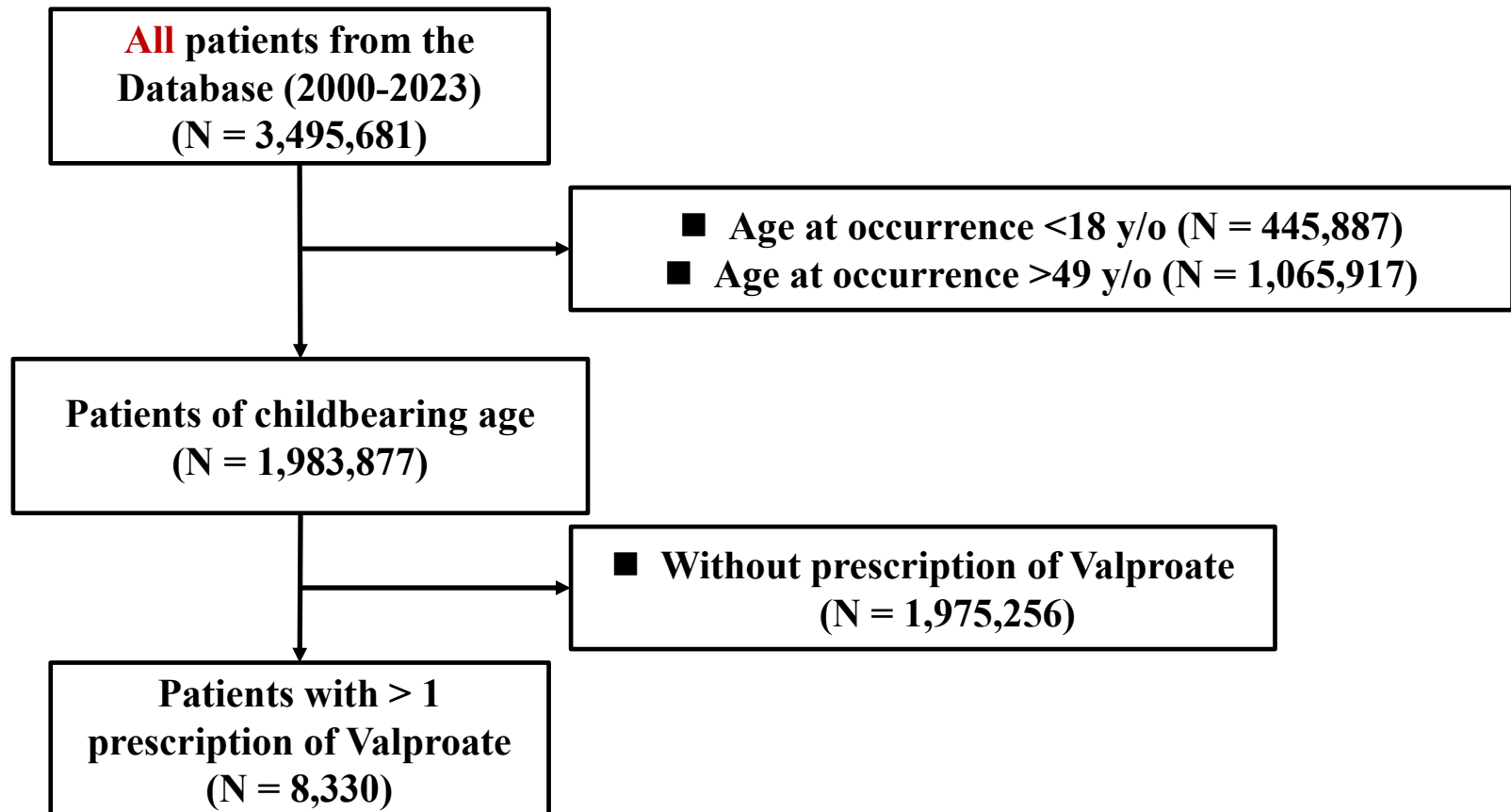
Summary: 37,820 events (90.65%)

Population Visualization

Switch to attrition view

Results of APAC VALUE Study : Cohort Selection (Figure 1)

Data source: TMUCRD



ATLAS

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New Characterization

Cohort Characterizations

Characterizations

Feature analyses

Created

2+ Weeks Ago (36)

Updated

2+ Weeks Ago (36)

Author

Anonymous (36)

Designs

Other designs (36)

Show columns

Copy

CSV

Show 50 entries

Showing 1 to 36 of 36 entries

Filter

Search

Previous

Next

		Created	Updated	Author
42	[Luong] new	12/11/2024 7:04 AM	12/11/2024 7:04 AM	anonymous
41	T2DM and Stroke	12/11/2024 4:43 AM	12/11/2024 5:19 AM	anonymous
39	(Hue) Antidepressants + OACs	12/05/2024 4:18 PM	12/10/2024 5:25 PM	anonymous
40	(Hue) SSRIs + OACs. Bleeding	12/05/2024 4:43 PM	12/05/2024 4:43 PM	anonymous
38	COPY OF [SM]	12/03/2024 1:58 PM	12/03/2024 1:59 PM	anonymous
37	dpp-4	11/24/2024 4:20 PM	11/24/2024 4:20 PM	anonymous
11	[HF] Characterization (2008-2020)	06/13/2023 11:12 PM	11/19/2024 10:58 AM	anonymous
36	COPY OF All type of cancer with CKD	11/17/2024 10:02 AM	11/17/2024 10:02 AM	anonymous
35	All type of cancer with CKD	11/13/2024 6:36 PM	11/13/2024 6:36 PM	anonymous
34	[Luong] First-time ischemic stroke patient , using statin and non using statin	11/13/2024 4:44 AM	11/13/2024 4:44 AM	anonymous
29	[Luong]	11/06/2024 3:38 AM	11/12/2024 8:11 PM	anonymous
32	(Hue) OACs + SSRIs. Covariates	11/06/2024 12:15 PM	11/07/2024 2:53 PM	anonymous
33	(Hue) Covariates	11/07/2024 2:38 PM	11/07/2024 2:44 PM	anonymous
28	trial	10/23/2024 4:01 PM	10/23/2024 4:01 PM	anonymous
27	[Anna]Characterization of first-line monotherapy for hypertension	10/21/2024 5:18 PM	10/21/2024 5:18 PM	anonymous

Example

4. Cohort characterization : Table 1



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New Characterization

[Jason] Example 1_DKD_4

Design | Concept Sets | Executions | Utilities | Versions | Messages 3

Enter the characterization description here

Cohort characterization median, range, and qu absolute calendar inte

Cohort definition

Import

Showing 0 to 0 of 0 entries

Feature analyses

Import

Showing 0 to 0 of 0 entries

Subgroup analysis

New subgroup

No subgroups defined

Feature analyses

Choose a Cohort definition

Select All | Deselect All

Showing 1 to 25 of 22,651 entries

Filter: Search...

Previous 1 2 3 4 5 ... 907 Next

	Id	Name	Created	Updated	Author	Prod_Group	jid_tag_group
Prod_Group	Untagged (22564)						
	test (14)						
	testing (6)						
	Coale (4)						
jid_tag_group	Untagged (22639)						
	test_tag (11)						
	Azd (1)						
Created	2+ Weeks Ago (22480)						
	Last Week (114)						
	This Week (52)						
	Within 24 Hours (5)						
Updated	2+ Weeks Ago (22449)						
	Last Week (144)						
	This Week (52)						
	Within 24 Hours (5)						
Author	anonymous (22565)						
	demo (86)						
Designs	Other designs (22651)						

Showing 1 to 25 of 22,651 entries

Previous 1 2 3 4 5 ... 907 Next

Cancel | Import

Example

4. Cohort characterization : Table 1

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Enter the Characterization description here

Cohort characterization is defined as the process of generating cohort level descriptive summary statistics from person level covariate data. Summary statistics of these person level covariates may be count, mean, sd, var, min, max, median, range, and quantiles. In addition, covariates during a period may be stratified into temporal units of time for time-series analysis such as fixed intervals of time relative to cohort_start_date (e.g. every 7 days, every 30 days etc.), or in absolute calendar intervals such as calendar-week, calendar-month, calendar-quarter, calendar-year.

Cohort definition

Import

Show 10 entries

Filter: Search...

Id	Name
1797101	[Jason] Example 1, D...

Showing 1 to 1 of 1 entries

Feature analyses

Import

Show 10 entries

Id	Name
----	------

Showing 0 to 0 of 0 entries

Subgroup analyses

New subgroup

No subgroups defined

Feature analyses parameters

New parameter

Show 10 entries

Name

Showing 0 to 0 of 0 entries

Choose a Feature Analyses...

Select All Deselect All

Showing 1 to 25 of 33 entries

Filter: Search...

Previous 1 2 Next

Type	Id	Name	Description
Criteria set (243)	79	Demographics Time In Cohort	Number of days of observation time during cohort period.
Preset (106)	73	Demographics Prior Observation Time	Number of continuous days of observation time preceding the index date.
Custom (34)	81	Demographics Post Observation Time	Number of continuous days of observation time following the index date.
Domain	68	Demographics Index Month	Month of the index date.
CONDITION (143)	145	IBD Analysis	
DRUG (88)	74	Demographics Gender	Gender of the subject.
MEASUREMENT (63)	146	IBD Analysis	
DEMOGRAPHICS (33)	70	Demographics Ethnicity	Ethnicity of the subject.
Updated	172	test BDI 1-9-2024	cv
2+ Weeks Ago (382)	75	Demographics Index Year-Month	Both calendar year and month of the index date in a single variable.
This Week (1)	77	Demographics Age	Age of the subject on the index date (in years).
2+ Weeks Ago (383)	74	Demographics Age Group	Age of the subject on the index date (in 5 year age groups)
Author	214	[IBD] Age groups	Age groups for IBD project
anonymous (383)	336	EB test	Age groups for EB
Designs	112	age	Age criteria
Other designs (383)			

Showing 1 to 25 of 33 entries

Show 25 entries

Previous 1 2 Next

Cancel Import

Example

4. Cohort characterization : Table 1



Choose a Feature Analyses...

Select AllDeselect All

Filter: CONDITION OCC

Showing 1 to 8 of 8 entries (filtered from 143 total entries)Previous1Next

Type	Id	Name	Description
Criteria set (243)	☐	83 Condition Occurrence Primary Inpatient Long Term	One covariate per condition observed as a primary diagnosis in an inpatient setting in the condition_occurrence table starting in the long term window.
Preset (106)	☐	85 Condition Occurrence Primary Inpatient Any Time Prior	One covariate per condition observed as a primary diagnosis in an inpatient setting in the condition_occurrence table starting any time prior to index.
Custom (34)	☐	102 Occurrence Primary Inpatient Short Term	One covariate per condition observed as a primary diagnosis in an inpatient setting in the condition_occurrence table starting in the short term window.
Domain	☐	104 Occurrence Primary Inpatient Medium Term	One covariate per condition observed as a primary diagnosis in an inpatient setting in the condition_occurrence table starting in the medium term window.
CONDITION (143)	☐	90 Condition Occurrence Short Term	One covariate per condition in the condition_occurrence table starting in the short term window.
DRUG (88)	☐	76 Condition Occurrence Medium Term	One covariate per condition in the condition_occurrence table starting in the medium term window.
MEASUREMENT (63)	☒	67 Condition Occurrence Long Term	One covariate per condition in the condition_occurrence table starting in the long term window.
DEMOGRAPHICS (33)	☐	69 Condition Occurrence Any Time Prior	One covariate per condition in the condition_occurrence table starting any time prior to index.
Created			
2+ Weeks Ago (382)			
This Week (1)			
Updated			
2+ Weeks Ago (383)			
Author			
anonymous (383)			
Designs			
Other designs (383)			

Showing 1 to 8 of 8 entries (filtered from 143 total entries)

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Example

4. Cohort characterization : Table 1



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New Characterization

[Jason] Example_1_DKD_4

Design Concept Sets Executions Utilities Versions Messages

Enter the characterization description here

Cohort characterization is defined as the process of generating cohort level descriptive summary statistics from person level covariate data. Summary statistics of these person level covariates may be count, mean, sd, var, min, max, median, range, and quantiles. In addition, covariates during a period may be stratified into temporal units of time for time-series analysis such as fixed intervals of time relative to cohort_start_date (e.g. every 7 days, every 30 days etc.), or in absolute calendar intervals such as calendar.week, calendar.month, calendar.quarter, calendar.year.

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New Characterization

[Jason] Example_1_DKD_4

Design Concept Sets Executions Utilities Versions Messages

Executions

Show only sources with results

Show 10 entries

Filter: Search...

Evidence network counts	Generate	View latest result	All executions (0)
Network prevalence counts	Generate	View latest result	All executions (0)
SYNPUF 1K	Generate	View latest result	All executions (0)
SYNPUF 5%	Generate	View latest result	All executions (0)

Showing 1 to 4 of 4 entries

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Example

4. Cohort characterization : Table 1



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[Jason] Example 1_DKD_4

Design | Concept Sets | Executions | Utilities | Versions | Messages

Executions > Reports for SYNPUF 5%

Date: 04/25/2026 11:08 PM | Design: -1333271691 | Results: 3 reports

Filter results to covariates with prevalence greater than: Threshold % Apply

Viewing most prevalent 3 of total 3 records

Filter panel

Cohorts: [Jason] Example 1_DKD_4

Analyses: Demographics Gender

Domains: Demographics

Show All Results | Export all

All prevalence covariates

Export | Show 25 entries

Demographics Gender

Demographics Age

Filter: Search...

ATLAS

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Characterization #1700

created by anonymous on 2026-04-25 22:41, modified by anonymous on 2026-04-25 23:08

[Jason] Example 1_DKD_4

Design | Concept Sets | Executions | Utilities | Versions | Messages

Executions > Reports for SYNPUF 5%

Date: 04/25/2026 11:08 PM | Design: -1333271691 | Results: 1 reports

Filter results to covariates with prevalence greater than: Threshold % Apply

Viewing most prevalent 2 of total 3 records

Filter panel

Cohorts: [Jason] Example 1_DKD_4

Analyses: Demographics Gender

Domains: Demographics

Show All Results | Export all

DemographicsGender (prevalence > undefined%)

Export | Show 25 entries

Filter: Search...

Covariate	Explore	Concept Id	Count	Pct
FEMALE	N/A	8532	21,742	57.49%
MALE	N/A	8507	16,078	42.51%

Showing 1 to 2 of 2 entries

Example

4. Cohort characterization : Table 1



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Characterization #1700
created by anonymous on 2026-04-25 22:41, modified by anonymous on 2026-04-25 23:08

[Jason] Example_1_DKD_4

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[Executions](#) > Reports for SYNPUF 5%

Date: 04/25/2026 11:08 PM Design: -1333271691 Results: 1 reports

Filter results to covariates with prevalence greater than: Threshold % [Apply](#)

Viewing most prevalent 2 of total 3 records

Filter panel

Cohorts

[Jason] Example_1_DKD_4

Analyses

Demographics Age

Demographics Gender

Demographics Age

Domains

Demographics

[Show All Results](#) [Export all](#)

DemographicsGender (prevalence > undefined%)

[Export](#) Show 25 entries

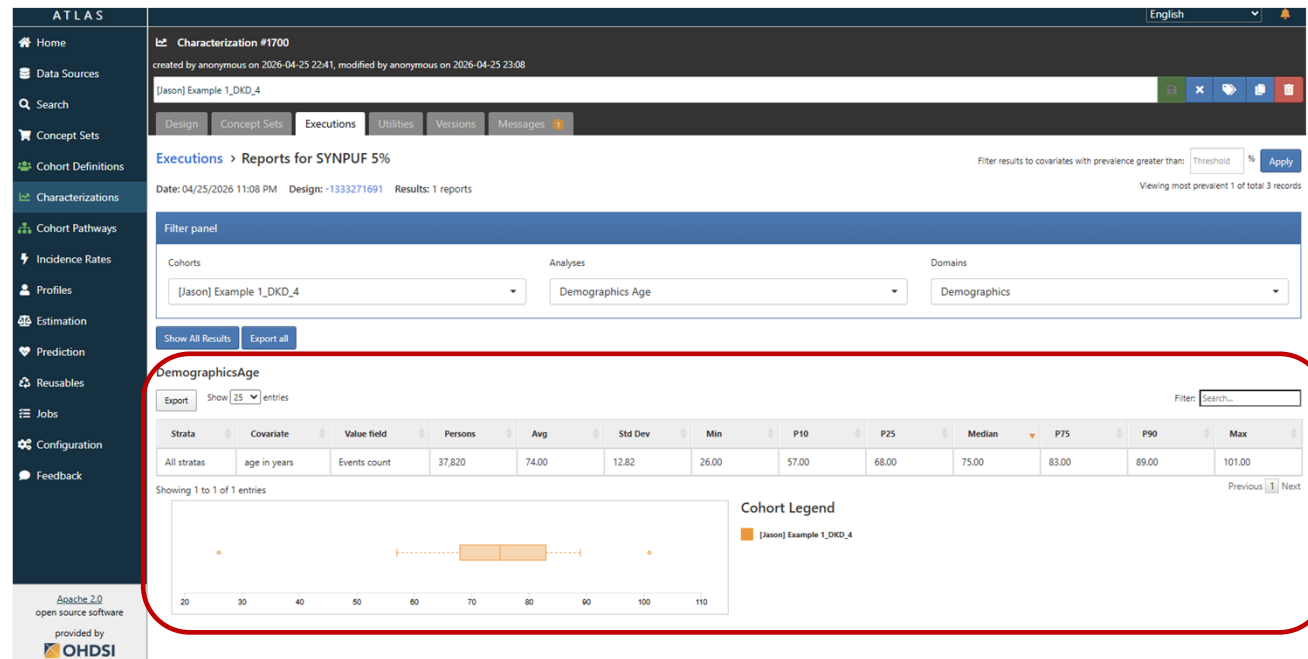
Covariate	Explore	Concept id	Count	Pct
FEMALE	N/A	8532	21,742	57.49%
MALE	N/A	8507	16,078	42.51%

Showing 1 to 2 of 2 entries

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Example

4. Cohort characterization : Table 1



Results : Aim 1: Baseline Clinical Characterisation (Table 1)

Data source: TMUCRD



Covariates	Count (n)	Percentage (%)
Age, mean (SD)	35.38	9.15
Age Group		
15 – 19	317	3.81%
20 – 24	1,073	12.88%
25 – 29	1,105	13.27%
30 – 34	1,175	14.11%
35 – 39	1,366	16.40%
40 – 44	1,606	19.28%
45 – 49	1,688	20.26%
Gender		
Male	4,617	55.43%
Female	3,713	44.57%

Results : Aim 1: Baseline Clinical Characterisation (Table 1 cont.)



Data source: TMUCRD

Covariates	Count (n)	Percentage (%)
Condition Era Long Term		
Epilepsy	701	8.42%
Headache	621	7.45%
Essential Hypertension	585	7.02%
Episodic Mood Disorder	528	6.34%
Seizure	473	5.68%
Dizziness and Giddiness	433	5.20%
Spontaneous Cerebral Hemorrhage	421	5.05%
Dysthymia	401	4.81%
Seizure Disorder	388	4.66%
Subarachnoid Hemorrhage due to traumatic injury	381	4.57%
Drug Exposure Long Term		
Sodium Chloride	3,964	47.59%
Acetaminophen	2,187	25.25%
Lorazepam	1,899	22.80%
Diclofenac	1,776	21.32%
Clonazepam	1,639	19.68%
Famotidine	1,531	18.38%
Estazolam	1,498	17.98%
Glucose	1,491	17.90%
Cefazolin	1,430	17.17%
Bisacodyl	1,418	17.02%

Example

5. Treatment Pathway: Figure 2



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Show columnsCopyCSVShow50entries

Showing 1 to 37 of 37 entries

	Created	Updated	Author	
45	Cervical cancer	12/03/2024 2:03 PM	12/03/2024 2:03 PM	anonymous
43	[PIONEER FUP] pathway 0	09/27/2024 2:00 PM	09/27/2024 2:00 PM	anonymous
41	check_crc_seclivtarget	08/14/2024 9:10 PM	08/14/2024 9:10 PM	anonymous
36	[Gyno] Genealogical (wo OC) Cancer Pathways	03/09/2024 3:53 PM	07/23/2024 4:03 PM	anonymous
40	Parkinson	07/23/2024 1:25 PM	07/23/2024 1:25 PM	anonymous
39	crlm	06/01/2024 7:19 PM	06/01/2024 7:19 PM	anonymous
38	Epilepsy	04/26/2024 2:40 PM	04/26/2024 2:40 PM	anonymous
37	(Ca Utilization) Breast cancer version 2	03/11/2024 10:59 PM	03/11/2024 10:59 PM	anonymous
35	[Gyno] All Genealogical Cancer Pathways	03/09/2024 3:41 PM	03/09/2024 3:41 PM	anonymous
34	[Gyno] Ovarian Cancer Pathways	03/09/2024 2:47 PM	03/09/2024 2:47 PM	anonymous
33	[Osteo] Bisphosphonate Pathways	03/08/2024 10:51 AM	03/08/2024 10:51 AM	anonymous
32	[Osteo]-DrugPathways	03/07/2024 2:38 PM	03/07/2024 2:38 PM	anonymous
31	(Ca Utilization) Breast cancer	03/02/2024 10:46 PM	03/02/2024 10:46 PM	anonymous
30	TB medication	12/22/2023 5:57 PM	12/22/2023 5:58 PM	anonymous
29	dementia in depression	11/22/2023 3:05 PM	11/22/2023 3:05 PM	anonymous
28	Dementia in HT	11/22/2023 11:13 AM	11/22/2023 11:13 AM	anonymous
27	(Demo 1) Dementia in T2DM version 1	10/25/2023 11:58 AM	10/25/2023 11:58 AM	anonymous
26	(Demo 1) Dementia in T2DM version 2	10/24/2023 4:47 PM	10/24/2023 4:47 PM	anonymous
25	crc_hcc	09/25/2023 4:00 PM	09/25/2023 4:00 PM	anonymous

Example

5. Treatment Pathway: Figure 2



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New Cohort Pathway

[Jason] Example 1_DKD_4

Design Executions Utilities Versions Messages 3

Enter the cohort pathway description here

Cohort Pathway is defined by

Target Cohorts

Each of the Target Cohorts

Import

Showing 1 to 25 of 22,651 entries

Choose a Cohort definition

Select All Deselect All

Filter: Search...

Previous 1 2 3 4 5 ... 907 Next

Prod_Group	Id	Name	Created	Updated	Author	Prod_Group	jid_tag_group
Untagged (22564)							
test (14)							
testing (6)							
Prod_Group							
jid_tag_group							
Untagged (22639)							
test_tag (11)							
Azd (1)							
Created							
2+ Weeks Ago (22480)							
Last Week (115)							
This Week (51)							
Within 24 Hours (5)							
Updated							
2+ Weeks Ago (22449)							
Last Week (145)							
This Week (51)							
Within 24 Hours (6)							
Author							
anonymous (22565)							
demo (86)							
Designs							
Other designs (22651)							

Showing 1 to 25 of 22,651 entries

Showing 1 to 25 of 22,651 entries

Previous 1 2 3 4 5 ... 907 Next

Cancel Import

Example

5. Treatment Pathway: Figure 2



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New Cohort Pathway

[Jason] Example_1_DKD_4

Design Executions Utilities Versions Messages 2

Enter the cohort pathway description here

Cohort Pathway is defined as the process of generating an aggregated sequence of transitions between the Event Cohorts among those people in the Target Cohorts.

Target Cohorts

Each of the Target Cohorts will be analyzed for

Import

Show 10 entries

Id	Name
1797101	[Jason] Example_1_DKD_4

Showing 1 to 1 of 1 entries

Event Cohorts

Each Event Cohort defines the step in a pathway

Import

Show 10 entries

Id	Name
----	------

Showing 0 to 0 of 0 entries

Analysis Settings

The following set of parameters will be used

Collapse Days: 0

Choose a Cohort definition

Select All Deselect All

Filter: BIGUANIDES

Showing 1 to 1 of 1 entries (filtered from 22,651 total entries)

Prod_Group	Id	Name	Created	Updated	Author	Prod_Group	Id	Tag_Group
Untagged (22564)	1793776	Biguanides	07/11/2025 6:51 PM	07/11/2025 6:51 PM	anonymous			

Showing 1 to 1 of 1 entries (filtered from 22,651 total entries)

Cancel Import

Example

5. Treatment Pathway: Figure 2



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Norwegian Institute of Public Health

WHO Collaborating Centre for
Drug Statistics Methodology

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ATC/DDD methodology
ATC
DDD
Lists of temporary
ATC/DDDs and
alterations
ATC/DDD alterations,
cumulative lists
ATC/DDD Index and
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Use of ATC/DDD
Courses
Meetings/open session
Deadlines
Links

Postal address:
Norwegian Institute of
Public Health
WHO Collaborating Centre
for Drug Statistics
Methodology
Postboks 222 Skøyen
0213 Oslo
Norway

Visiting/delivery address:
Myrens verksted 6H
0473 Oslo

[New search](#) [Show text from Guidelines](#)
A ALIMENTARY TRACT AND METABOLISM
A10 DRUGS USED IN DIABETES
A10B BLOOD GLUCOSE LOWERING DRUGS, EXCL. INSULINS
A10BA [Biguanides](#)
A10BB [Sulfonylureas](#)
A10BC [Sulfonamides \(heterocyclic\)](#)
A10BD [Combinations of oral blood glucose lowering drugs](#)
A10BF [Alpha glucosidase inhibitors](#)
A10BG [Thiazolidinediones](#)
A10BH [Dipeptidyl peptidase 4 \(DPP-4\) inhibitors](#)
A10BJ [Glucagon-like peptide-1 \(GLP-1\) analogues](#)
A10BK [Sodium-glucose co-transporter 2 \(SGLT2\) inhibitors](#)
A10BX [Other blood glucose lowering drugs, excl. insulins](#)

Last updated: 2026-01-20

Example

5. Treatment Pathway: Figure 2



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[Jason] Example 1_DKD_4

Import

Show 10 entries

Filter: Search...

Id	Name		
1797101	[Jason] Example 1_DKD_4	Edit cohort	Remove

Showing 1 to 1 of 1 entries

Event Cohorts

Each Event Cohort defines the step in a pathway that may occur for a person in the Target Cohort.

Import

Show 10 entries

Filter: Search...

Id	Name		
1773358	Thiazolidinediones	Edit cohort	Remove
1773361	SGLT2 inhibitors	Edit cohort	Remove
1793775	Alpha-glucosidase inhibitor	Edit cohort	Remove
1793776	Biguanides	Edit cohort	Remove
1793777	DPP-4	Edit cohort	Remove
1793778	GLP-1	Edit cohort	Remove
1793781	Sulfonylurea	Edit cohort	Remove
1795303	insulin	Edit cohort	Remove

Showing 1 to 8 of 8 entries

Analysis Settings

The following set of parameters will be used when performing the pathway analysis.

Collapse Days: 0

Any dates found within the specified collapse days will be reassigned the earliest date. Collapsing dates reduces pathway variation, leading to a reduction in 'noise' in the result.

Minimum cell count: 0

Minimum number of subjects in the target cohort for a given event in order to be counted in the pathway.

Maximum path length: 5

Maximum number of steps in a given pathway to be included in the sunburst plot.

Example

5. Treatment Pathway: Figure 2



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Cohort Pathway #584
created by anonymous on 2026-04-25 22:58

[Jason] Example 1.DV5-4

Design Executions Utilities Versions Messages 1

Executions

☐ Show only sources with results

Show 10 entries

Filter: Search...

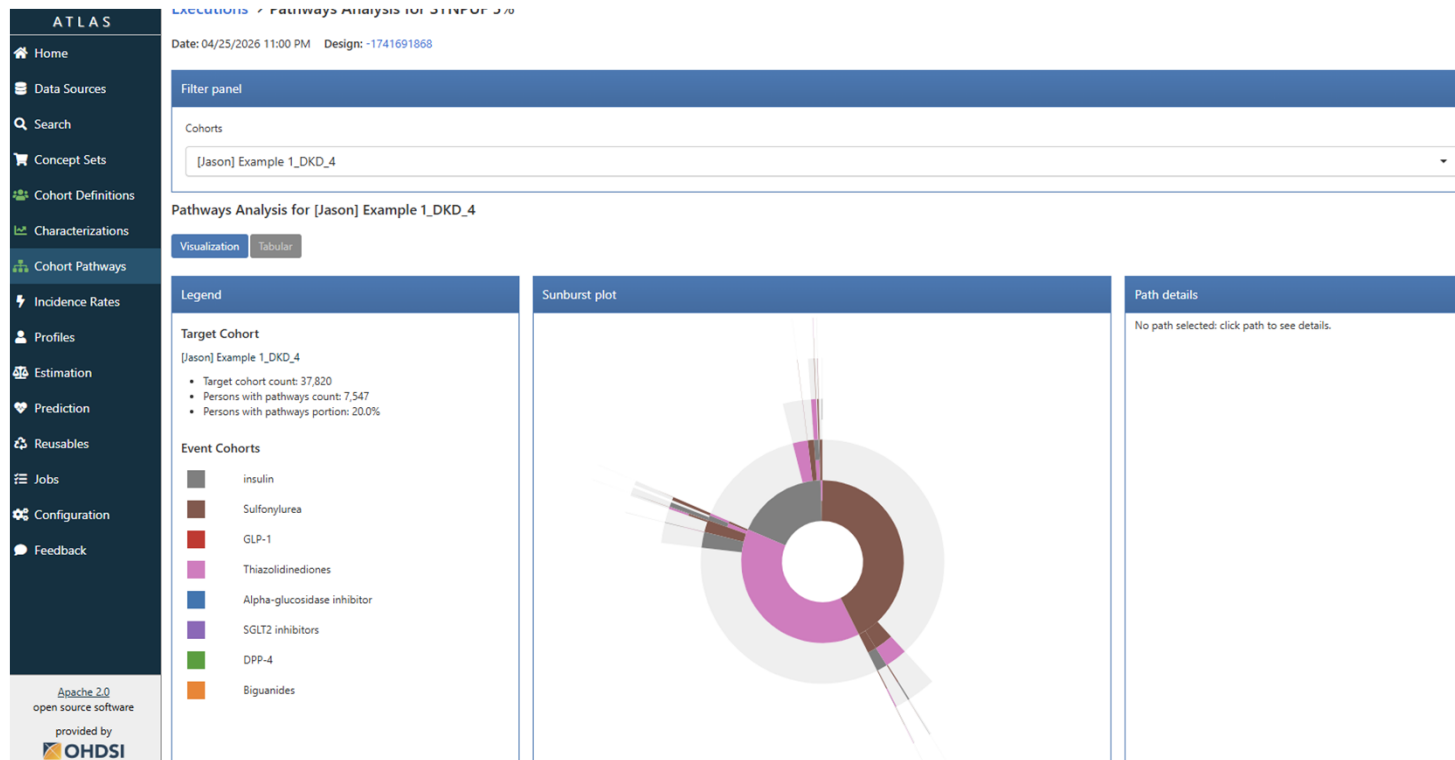
Evidence network counts	Generate	View latest result	All executions (0)
Network prevalence counts	Generate	View latest result	All executions (0)
SYNPUF 1K	Generate	View latest result	All executions (0)
SYNPUF 5%	Generate	View latest result	All executions (0)

Showing 1 to 4 of 4 entries

Previous 1 Next

Example

5. Treatment Pathway: Figure 2



Schedule of APAC VALUE Study



Milestones	Deadline
Protocol (Draft)	June 18
Analysis (by initiated team)	July 5
Share the code by initiated team	July 15
Analysis (by collaborators)	July 16 - July 30
Collaborators provide results to the PI	Aug 5
PI Integrate results from various databases	Aug 10
Submit the abstract	Aug 15 (DL: Aug 17)
Present at the OHDSI APAC Symposium	Nov 13



Thank You

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Taipei Medical University