



BRICS

Biomedical Research
Informatics Computing System

BRICS Seminar

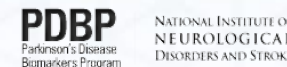
Globus Workflow

UMLS in BRICS Data Dictionary

Data Element to UMLS Mapping Tool Update

Biomedical Research Informatics Computing System (BRICS)

April 10th, 2025



Audio/Video	Please keep your microphone muted
Recording	<ul style="list-style-type: none"> • Today's session will be recorded • Will be posted on the BRICS website: https://brics.cit.nih.gov/demo
Questions & Comments	<ul style="list-style-type: none"> • We encourage your participation today • Please use the chat for questions & comments. The chat will be monitored throughout today's demo. • There will also be time after each speaker and at the end of the demo to ask live questions.

Agenda

Time	Topic	Speaker(s)
9:05 AM-9:30 AM	Globus Workflow	Rajeev Nedumpally Dan Gillis
9:30 AM-9:40 AM	UMLS in BRICS Data Dictionary	Dr. Olga Vovk
9:40 AM–9:55 AM	Data Element to UMLS Mapping Tool Update	Dr. Alexandra Bokinsky
9:55 AM-10:00 AM	Closing Remarks	Dr. Matthew McAuliffe



BRICS

Biomedical Research
Informatics Computing System

Biomedical Research Informatics Computing System (BRICS)

Globus for Large Data Submission and Download

Rajeev Nedumpally / Dan Gillis



NATIONAL INSTITUTE OF
NEUROLOGICAL
DISORDERS AND STROKE

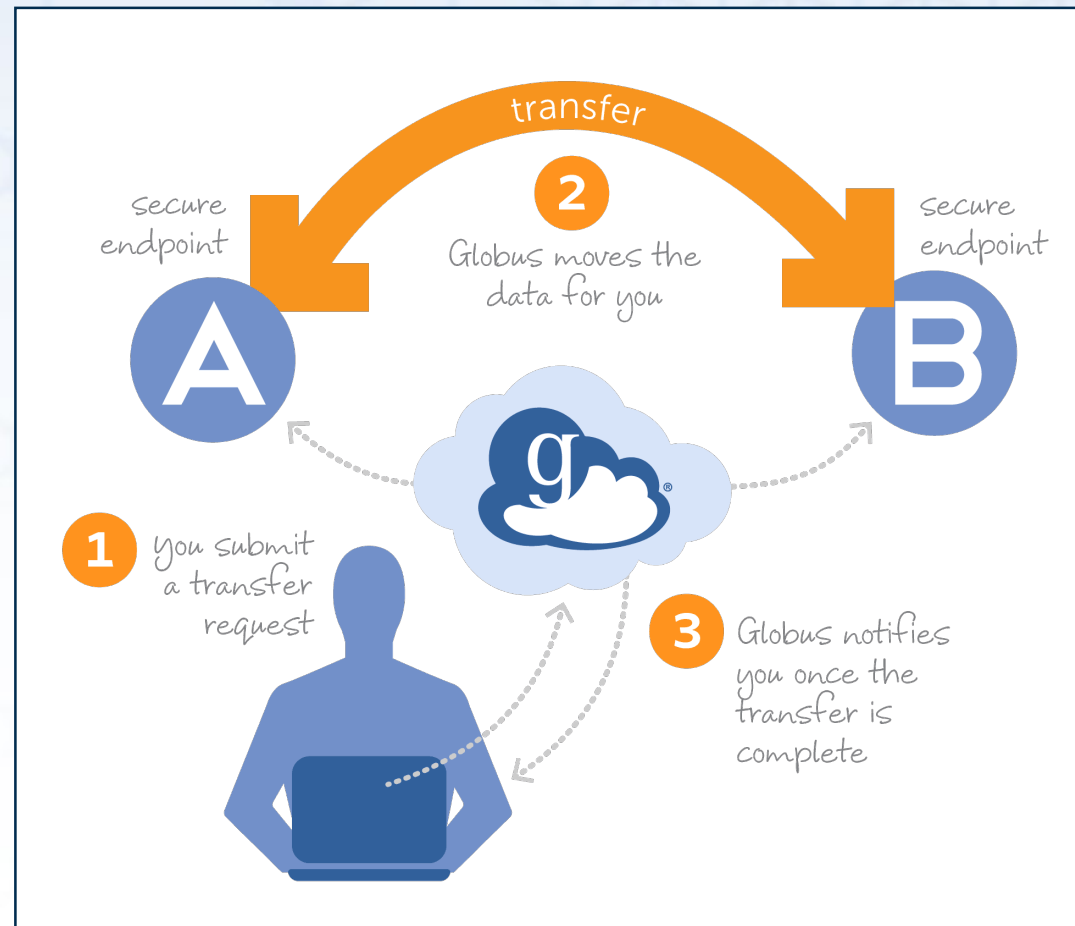


Globus on BRICS Overview

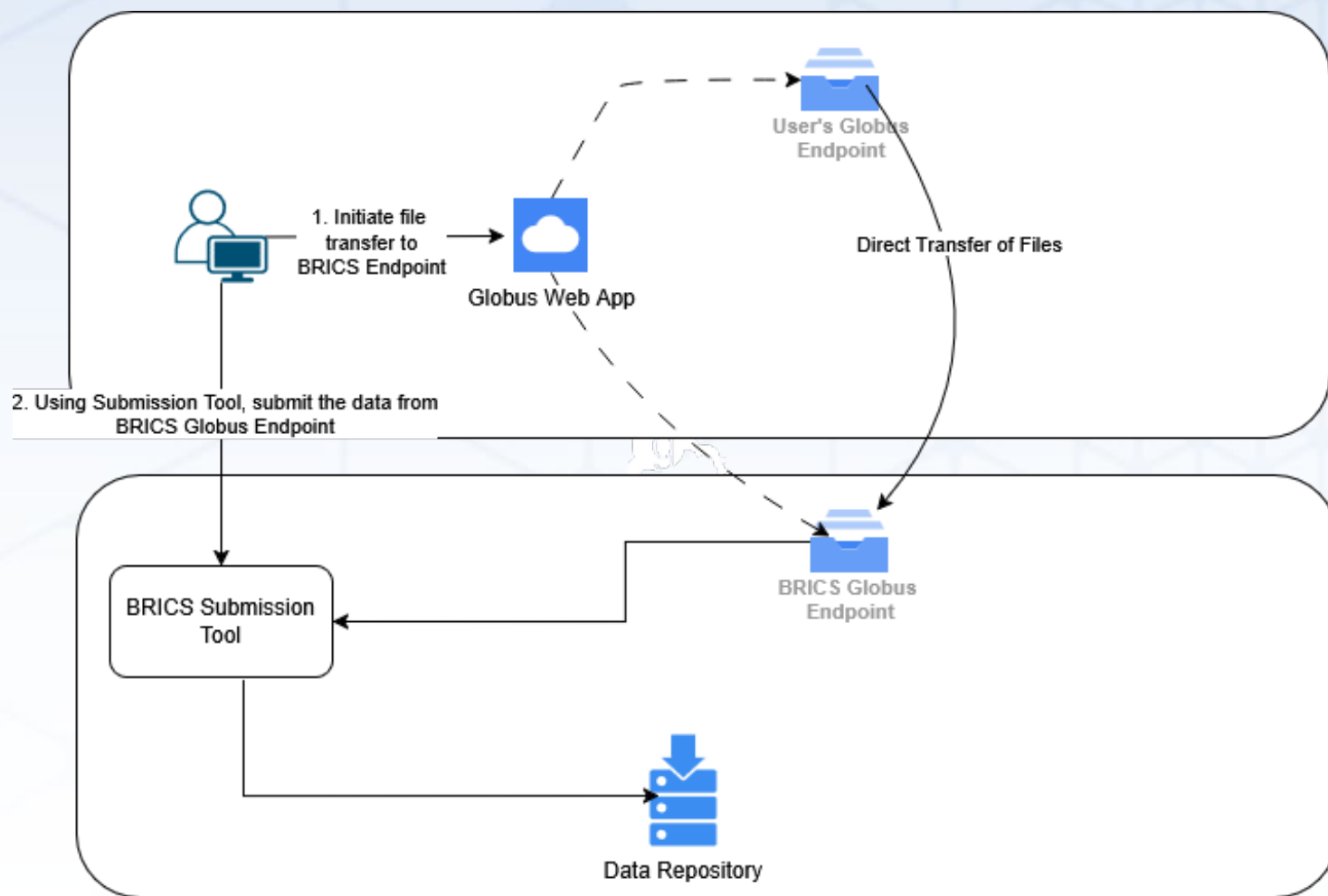
- Introduction to Globus and how it's used on BRICS
- High level user workflow
- Benefits of using Globus on BRICS
- Demo

Why Globus?

- Globus is a widely-used platform at NIH (ICs and CIT HPC group) for transferring large research datasets
- Supports secure and reliable file transfers
- Globus on BRICS instances
 - Eliminates causes of failures in large uploads (e.g., network interruptions, timeouts)
 - Will permit direct file transfers to and from other Globus endpoints, including **Biowulf**

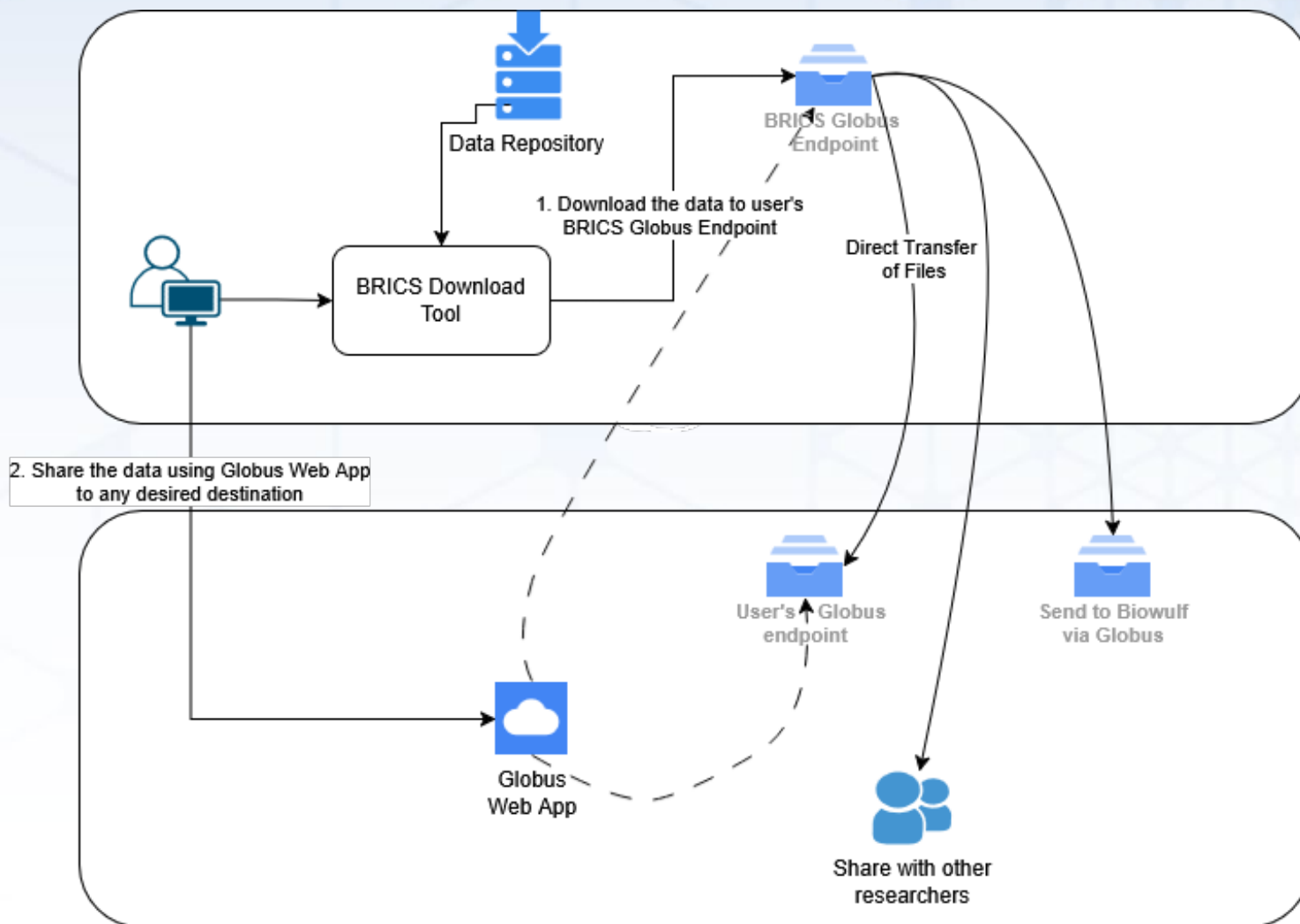


Submitting Data to BRICS with Globus





Downloading Data from BRICS with Globus



Benefits of Globus on BRICS Submission

- Improved performance for large submissions
 - 2-5x improvement for datasets over 10 GB
 - Particularly useful for imaging and genomics data
- Greater reliability on slow or unstable networks
- More efficient data corrections
 - Only upload changed files
- Example use case: NEI submission of 70,000 optical image series (5 TB)
 - Expected to save dozens of hours of manual labor setting up the file transfers

Benefits of Globus on BRICS Download

- Transfer files directly to preferred system for simplified data analysis workflows
 - Currently can only download directly to user's system
 - In Underdog release (June 2025), transfer directly to Globus endpoint
 - From there, transfer to desired system via Globus
 - In future, we plan to natively integrate transfer to **Biowulf**
- Simplified transfer of big data
 - Download individual files, not zip archives
 - Again, most useful for imaging and genomics data
- Simplified sharing data with collaborators

Demo of Globus Submission Process on FITBIR

- Prerequisites
 - Have a Globus account
 - Receive account permission to use Globus endpoint on BRICS Instance
 - Prepare data for BRICS submission
 - Same process as before
- Two step process
 - Upload files to FITBIR Endpoint via Globus
 - Submit files from FITBIR Endpoint into FITBIR Repository



Demo



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Questions?





BRICS

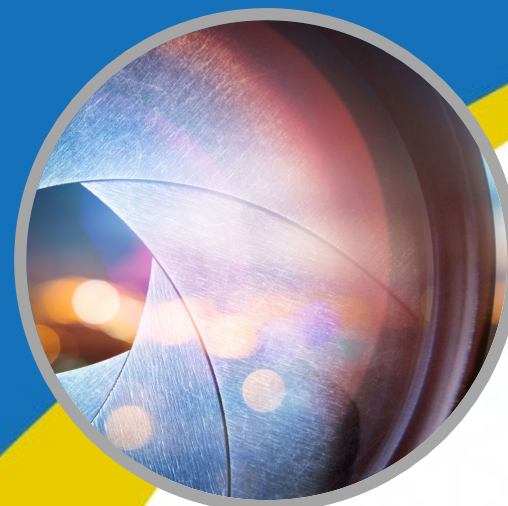
Biomedical Research
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BRICS Data Dictionary:

**Mapping CDE semantics to Unified Medical
Language System (UMLS) concepts**

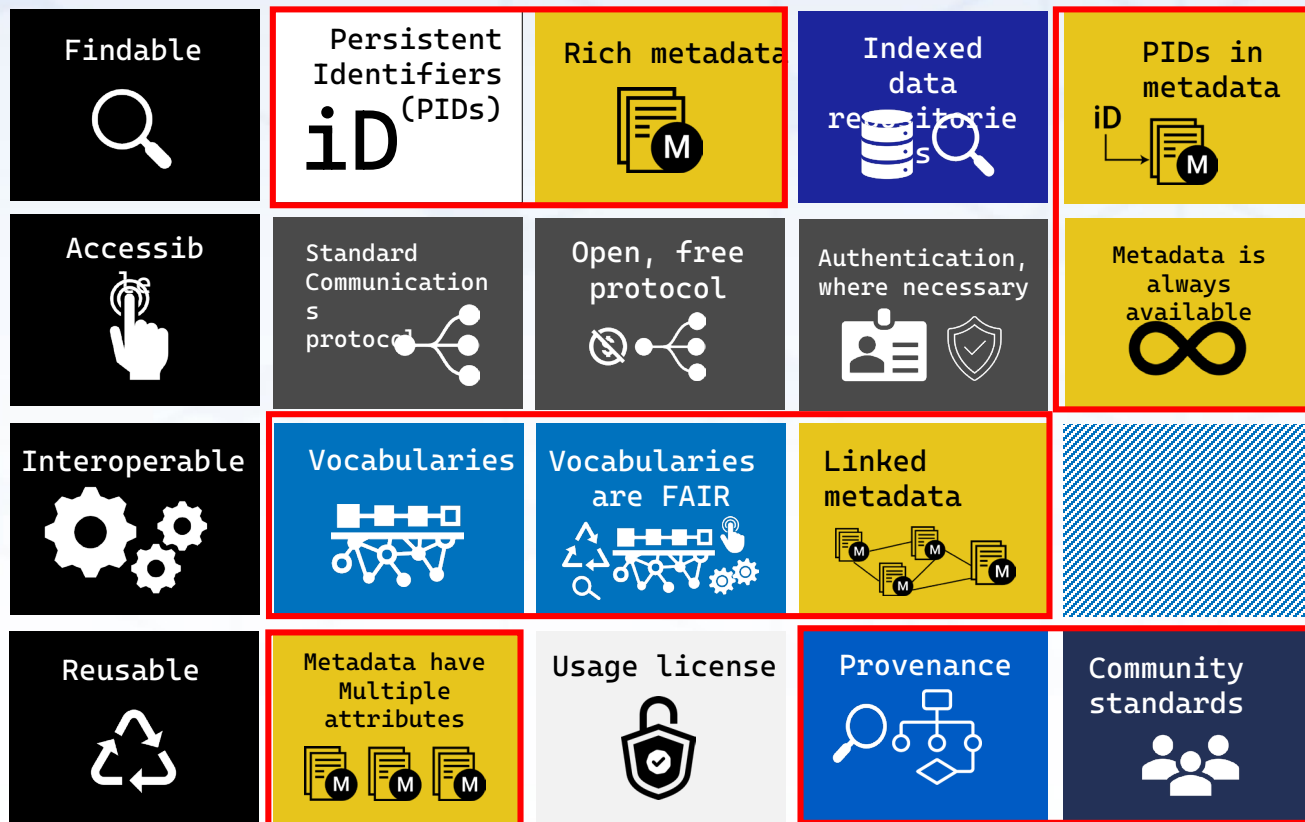
How it helps make BRICS data FAIR

Dr. Olga Vovk



BRICS data dictionary is built on FAIR principles:

Findability, Accessibility, Interoperability, and Reusability (FAIR) principles



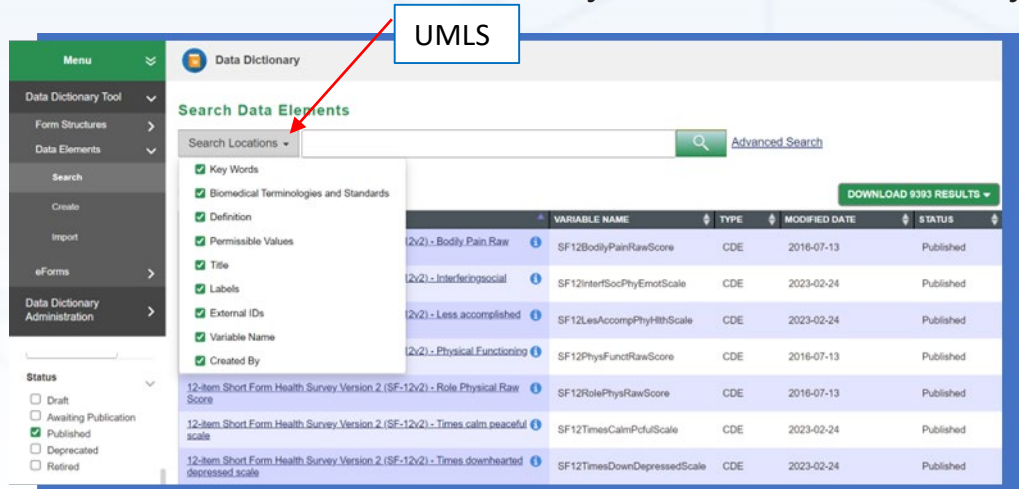
- Uses common data elements (CDEs) to collect data;
- Incorporates standard controlled vocabularies;



- Allows effectively find, query, and report data;
- Supports data exchange between independent informatics systems.

1. The count of CDEs in BRICS DDs is big (~10 K published CDEs in FITBIR only) and growing.
2. We support different common data models and standards.
 - That affects how we manage data dictionaries, including searching, curating, creating, and the most important - re-using of CDEs.
 - That affects data analysis and data discovery.

Issues common
for all large CDE
repositories



The screenshot shows the 'Data Dictionary' interface. A search for 'UMLS' is performed, resulting in a list of CDEs. The interface includes a sidebar with navigation options like 'Menu', 'Data Dictionary Tool', 'Form Structures', 'Data Elements', 'Search', 'Create', 'Import', 'eForms', and 'Data Dictionary Administration'. The main area shows a search bar, a 'Search Locations' dropdown, and a table of results.

VARIABLE NAME	TYPE	MODIFIED DATE	STATUS
2(x2) - Bodily Pain Raw	CDE	2016-07-13	Published
2(x2) - Interfering social	CDE	2023-02-24	Published
2(x2) - Less accomplished	CDE	2023-02-24	Published
2(x2) - Physical Functioning	CDE	2016-07-13	Published
12-item Short Form Health Survey Version 2 (SF-12v2) - Role Physical Raw Score	CDE	2016-07-13	Published
12-item Short Form Health Survey Version 2 (SF-12v2) - Times calm peaceful scale	CDE	2023-02-24	Published
12-item Short Form Health Survey Version 2 (SF-12v2) - Times downhearted depressed scale	CDE	2023-02-24	Published

The most recent initiative we took to make BRICS to comply with the latest [NIH Policy for Data Management and Sharing](#):

- is adding the option of organizing CDEs based on their semantics;
- by mapping DE semantics to UMLS concepts/CUIs.

UMLS as a terminology source

[The Unified Medical Language System \(UMLS\) Metathesaurus](#), supported by NLM is a large biomedical thesaurus that is organized by concept, or meaning. It links synonymous names from over **200 different terminologies and vocabularies**.



The screenshot shows the UMLS website interface. At the top, it says 'Unified Medical Language System® (UMLS®)'. Below that is a breadcrumb trail: 'Home > Health IT > UMLS'. The main heading is 'Unified Medical Language System (UMLS)'. A paragraph describes it: 'The UMLS integrates and distributes key terminology, classification and coding standards, and associated resources to promote creation of more effective and interoperable biomedical information systems and services, including electronic health records.' Below this is a section titled 'Access the UMLS' with the text 'Sign up for a license, download files, and browse UMLS data.' and four buttons: 'Sign Up', 'Downloads', 'Browser', and 'API'. At the bottom, it asks 'What is the UMLS?' and provides a brief definition: 'The UMLS, or Unified Medical Language System, is a set of files and software that brings together many health and biomedical vocabularies and standards to enable interoperability between computer systems.'

- The Unified Medical Language System (UMLS) has been a critical tool in biomedical and health informatics for more than 30 years.
- The UMLS brings together vocabularies and standards in the biomedical field **to facilitate interoperability among different computer systems, projects, and applications.**



Update on annotating CDE semantics with UMLS concepts

BRICS data dictionary supports

- Adding UMLS coding per CDE, UDE and Permissible Values (**4K DEs across BRICS**)
- Ability to search for CDEs/UDEs by concept name and/or concept identifier

UMLS CUI: C001779
UMLS Concept name: Age

Search Data Elements

Se ☐ Key Words ☒ Biomedical Terminologies and Standards ☐ Definition ☐ Permissible Values

Advanced Search

DOWNLOAD 8 RESULTS

VARIABLE NAME	TYPE	MODIFIED DATE	STATUS
AGE	CDE	2023-04-21	Awaiting Publication
AgeYrs	CDE	2023-08-11	Published
FamHistCADYoungAgeVal	CDE	2023-07-26	Awaiting Publication
FamHistStrokYoungAgeVal	CDE	2023-07-26	Awaiting Publication
HandPrefBefore12MoAgeInd	CDE	2023-07-28	Awaiting Publication
MedHistCondEndAgeVal	CDE	2023-08-04	Awaiting Publication
MedHistCondSirtAgeVal	CDE	2023-08-04	Awaiting Publication
PostnatalAgeVal	CDE	2023-07-31	Published

Showing 1 to 8 of 8 entries (filtered from 44,888 total entries)

- Supports programmatic analysis of the data.
- Makes data stored in a BRICS repositories:
 - more AI and machine learning ready;
- in-line with both FAIR principles and the NIH Policy for Data Management and Sharing;
- consistent with NLM's DE efforts supported by the [NIH CDE Governance group](#).
- Supports data discovery.

We developed [Data Element to UMLS Mapping Tool](#) and mapped (across BRICS repositories) ~4K CDEs to UMLS concepts



New: annotating form structures semantics with UMLS concepts

BRICS data dictionary has

- Ability to annotate form structures with UMLS concepts (up to 3 CUIs per FS)

Home ProFoRMS Subject Management **Data Dictionary** Data Repository Tools Query Meta Study Account Management Forum

Menu Data Dictionary

Data Dictionary Tool
Form Structures
Search
Create
Data Elements
eForms
Data Dictionary Administration

Status: Published
[Create Draft Copy](#)
[Data Element Report](#)
[Data Element Report REDCap format](#)
[Data Element Report NLM format](#)
[Export JSON](#)
[CSV](#)
[CSV with Sample Data](#)

Search Form Structures > FITBIR Demographics Form

Form Structure: FITBIR Demographics Form [EDIT FORM](#) [RETURN TO SEARCH](#)

This form structure is an organized set of data definitions for a form that has not been copyrighted

Form Details Data Elements eForms Documentation Keywords Change History

Resource: FITBIR
Title: FITBIR Demographics Form
Short Name: DemogrFITBIR
Description: FITBIR Demographics standard form
Disease: Traumatic Brain Injury
Required Program Form: Yes
Standardization: Standard NINDS CDE
Labels:
Form Type: Clinical Assessment
Publication Date: 2015-04-17
Version: 1.1
Date Created: 2015-01-22
Created By:
Owner:
Number of Data Elements: 137
eForms: Y

Why did we choose these CUIs?

Biomedical Terminologies and Standards

ORDER	CONCEPT IDENTIFIER	CONCEPT NAME	TERMINOLOGY SOURCE
1	C0679646/C1521970	Participant/Characteristics	UMLS
2	C1704791	Demographics Domain	UMLS

Showing 1 to 2 of 2 entries

FIRST PREVIOUS 1 NEXT LAST



New: annotating form structures semantics with UMLS concepts

Using NINDS recommendations & domain/subdomain information
(<https://www.commondataelements.ninds.nih.gov/>)

Domain → Participant Characteristics

Sub-domain → Demographics

Participant/Characteristics
C0679646/C1521970
Demographics Domain
C1704791

CRF Module / Guideline	CDEs
General Core	CDE Details
Demographics	CDE Details
Demographics	CDE Details
Demographics	CDE Details
Demographics	CDE Details
Demographics	CDE Details
Demographics	CDE Details
FITBIR Demographics Form	CDE Details
+ Social Status	

Domain Participant History and Family History

Sub-domain + General Health History

Domain Disease/Injury Related Events

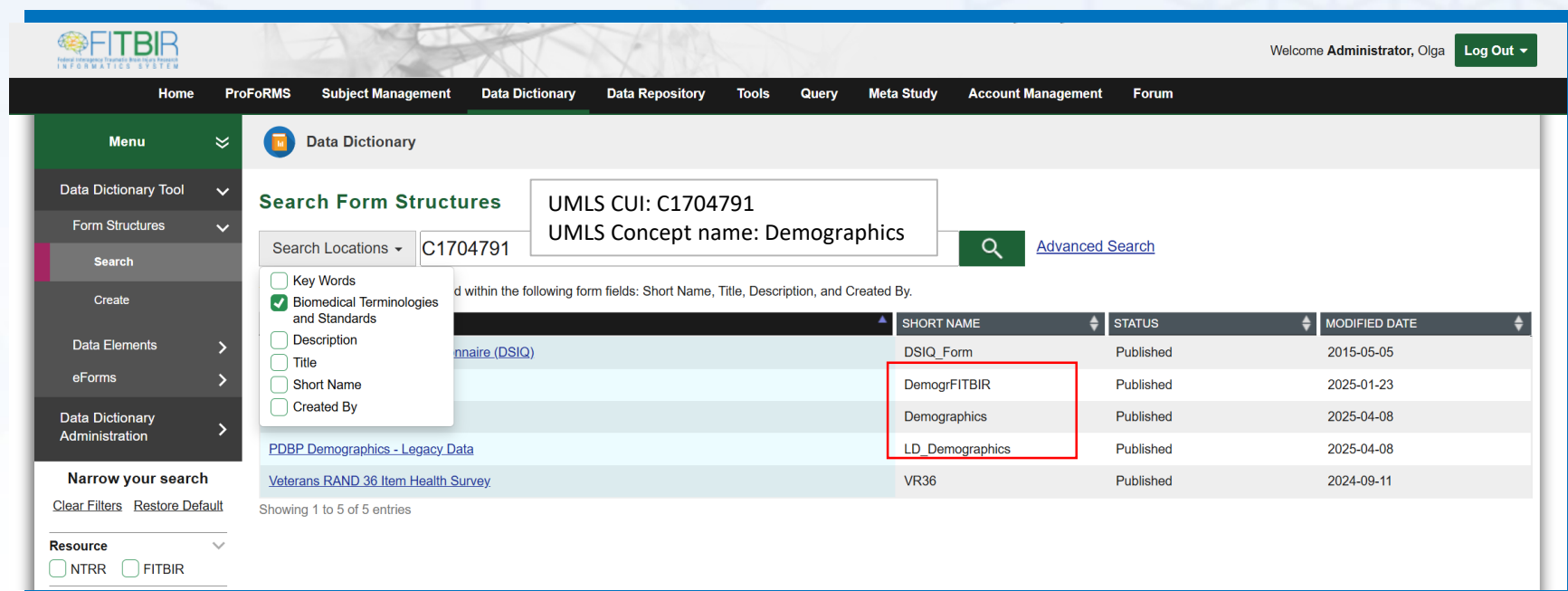
Sub-domains

- + History of Disease/Injury Event
- + Biomechanical Devices
- + Classification
- + Second Insults
- + Discharge Information

New: annotating form structures semantics with UMLS concepts

BRICS data dictionary has

- Ability to annotate BRICS FS with UMLS concepts (up to 3 CUIs per FS)
- Ability to search for FS by concept name and/or concept identifier



The screenshot shows the BRICS Data Dictionary interface. The top navigation bar includes links for Home, ProFoRMS, Subject Management, Data Dictionary (active), Data Repository, Tools, Query, Meta Study, Account Management, and Forum. The user is logged in as Administrator, Olga.


The left sidebar contains a menu with options: Data Dictionary Tool, Form Structures, Search (selected), Create, Data Elements, eForms, Data Dictionary Administration, and a section to narrow the search with filters for Resource (NTRR, FITBIR).

The main content area is titled "Data Dictionary" and "Search Form Structures". It shows a search for UMLS CUI: C1704791 and UMLS Concept name: Demographics. The search results are displayed in a table with columns: SHORT NAME, STATUS, and MODIFIED DATE. The results are filtered to show only "Demographics" related forms.

SHORT NAME	STATUS	MODIFIED DATE
DSIQ_Form	Published	2015-05-05
DemogrFITBIR	Published	2025-01-23
Demographics	Published	2025-04-08
LD_Demographics	Published	2025-04-08
VR36	Published	2024-09-11

Showing 1 to 5 of 5 entries

New: incorporating FS CUIs into CDEs CUIs & grouping CDEs based on semantics


Welcome Administrator, Olga [Log Out](#)

[Home](#)
[ProFoRMS](#)
[Subject Management](#)
[Data Dictionary](#)
[Data Repository](#)
[Tools](#)
[Query](#)
[Meta Study](#)
[Account Management](#)
[Forum](#)

Menu

- Data Dictionary Tool
- Form Structures
- Data Elements
- Search**
- Create
- Import
- eForms
- Data Dictionary Administration

Status: Published
[Knowledge Graph](#)

Data Dictionary

[Search Data Elements](#) > Age in years
 [EDIT](#)
[RETURN TO SEARCH](#)

Common Data Element: Age in years

[Overview](#)
[Documents](#)
[Attributes](#)
[Keywords & Labels](#)
[Classifications](#)
[Change History](#)
[Linked Form Structures](#)

Listed below are the details for the data element.

Resource NTRR, FITBIR

Version 1.22

Element Type Common Data Element

Title Age in years

Variable Name AgeYrs

Short Description Value for participant's subject age recorded in years.

Definition Value for participant's subject age, calculated as elapsed time since the birth of the participant/subject in years. The subjects age is typically recorded to the nearest full year completed, e.g. 11 years and 6 months should be recorded as 11 ...

Search:

ORDER	CONCEPT IDENTIFIER	CONCEPT NAME	TERMINOLOGY SOURCE
2	C0001779	Age	UMLS
3	C0679646/C1521970	Participant/Characteristics	UMLS
4	C1704791	Demographics domain	UMLS

Showing 1 to 3 of 3 entries

[FIRST](#)
[PREVIOUS](#)
1
[NEXT](#)
[LAST](#)

Notes cdRNS|eyeGene|FITBIR|NIA|PDBP;CDISC variables: QNAM=MHAGE, MHAGE=Age at MH Event, QVAL contains the age with the appropriate unit (years)

Creation Date

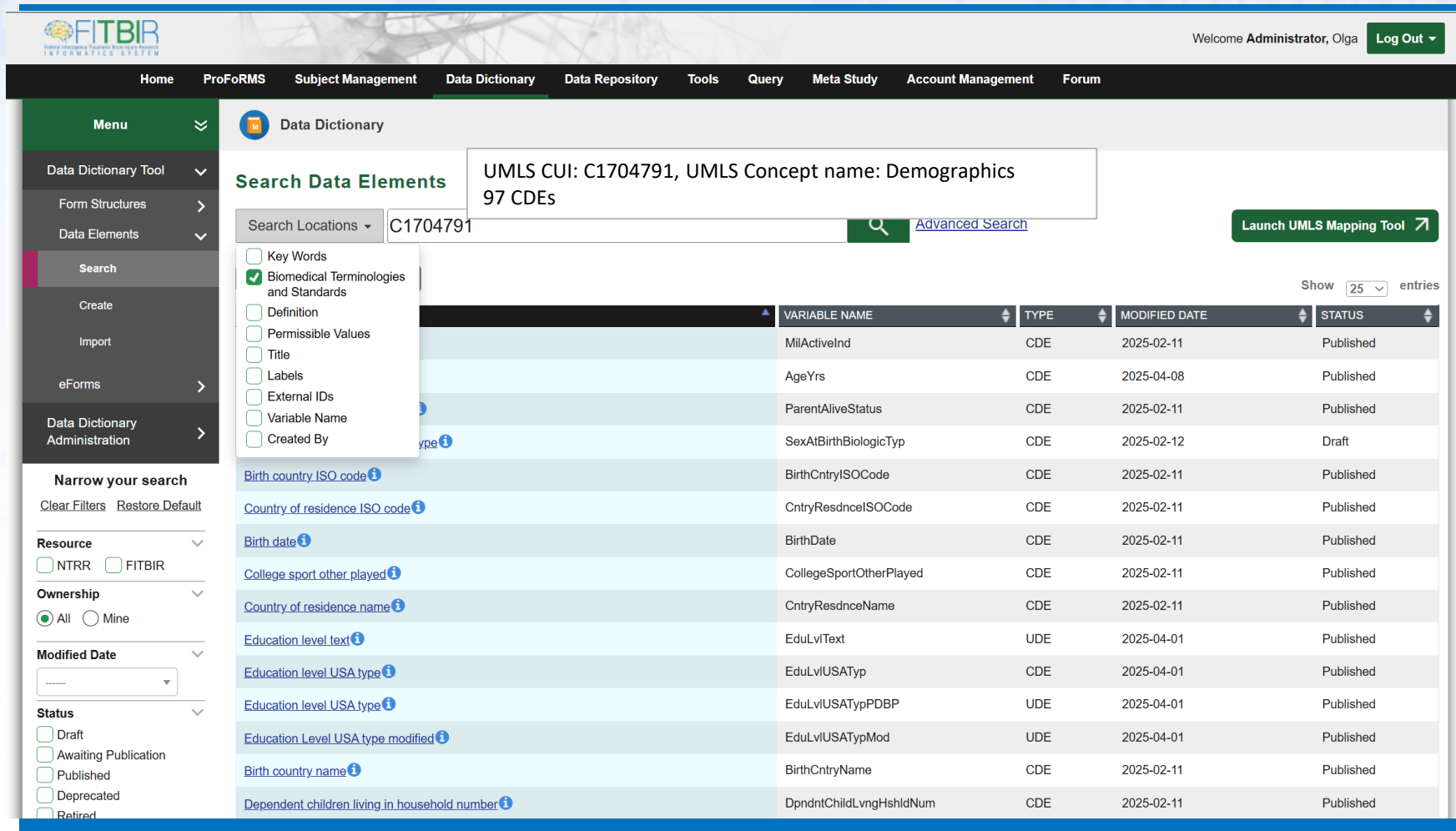
Created By

Historical Notes

References No references available

New: incorporating FS CUIs into CDEs CUIs & grouping CDEs based on semantics

- Ability to search for CDEs which belong to a given FS by concept name and/or FS CUI



Welcome Administrator, Olga [Log Out](#)

Home ProFoRMS Subject Management **Data Dictionary** Data Repository Tools Query Meta Study Account Management Forum

Menu

- Data Dictionary Tool
- Form Structures
- Data Elements
- Search**
- Create
- Import
- eForms
- Data Dictionary Administration

Narrow your search

[Clear Filters](#) [Restore Default](#)

Resource

☐ NTRR ☐ FITBIR

Ownership

☒ All ☐ Mine

Modified Date

Status

☐ Draft
☐ Awaiting Publication
☐ Published
☐ Deprecated
☐ Retired

Data Dictionary

Search Data Elements

UMLS CUI: C1704791, UMLS Concept name: Demographics
97 CDEs

Search Locations [Advanced Search](#) [Launch UMLS Mapping Tool](#)

☐ Key Words
☒ Biomedical Terminologies and Standards
☐ Definition
☐ Permissible Values
☐ Title
☐ Labels
☐ External IDs
☐ Variable Name
☐ Created By

Show entries

	VARIABLE NAME	TYPE	MODIFIED DATE	STATUS
	MilActiveInd	CDE	2025-02-11	Published
	AgeYrs	CDE	2025-04-08	Published
	ParentAliveStatus	CDE	2025-02-11	Published
	SexAtBirthBiologicTyp	CDE	2025-02-12	Draft
Birth country ISO code	BirthCntryISOCODE	CDE	2025-02-11	Published
Country of residence ISO code	CntryResdnceISOCODE	CDE	2025-02-11	Published
Birth date	BirthDate	CDE	2025-02-11	Published
College sport other played	CollegeSportOtherPlayed	CDE	2025-02-11	Published
Country of residence name	CntryResdnceName	CDE	2025-02-11	Published
Education level text	EduLvlText	UDE	2025-04-01	Published
Education level USA type	EduLvlUSATyp	CDE	2025-04-01	Published
Education level USA type	EduLvlUSATypPDBP	UDE	2025-04-01	Published
Education Level USA type modified	EduLvlUSATypMod	UDE	2025-04-01	Published
Birth country name	BirthCntryName	CDE	2025-02-11	Published
Dependent children living in household number	DpndntChldLvngHshldNum	CDE	2025-02-11	Published

In BRICS data dictionary each CDE can be assigned 3 CUIs

- 2 CUIs are assigned based on FS to which CDE belongs
- 3rd CUI assigned based on CDE semantics

Demographics Domain	variable name	title	CUI	concept names
C1704791	AgeYrs	Age in years	C0001779	Age
	BirthCntryISOCode	Birth country ISO code	C2985725	Birth Country Code
	BirthCntryName	Birth country name	C1300001	Country of birth (finding)
	BirthDate	Birth date	C2348576	Subject Birth Date
	CaregvrPrimryExtendOTH	Primary caregiver extended type other text	C0085537	Caregiver
	CaregvrPrimryExtendType	Primary caregiver extended type	C0085537	Caregiver
	CntryResdnceISOCode	Country of residence ISO code	C0454664	Country
	CntryResdnceName	Country of residence name	C1562954	Country of residence
	EduLvlUSATyp	Education level USA type	C0013658/C0041703	Educational Status/United States
	EduOTH	Education other text	C0013658	Educational Status
	EduTyp	Education type	C0013658	Educational Status
	EmplmtExpndStatus	Employment expanded status	C0014003C0679646/C1521970	Employment
	EthnCtTxt	Ethnicity category	C0015031	Ethnic group
	EthnUSACat	Ethnicity USA category	C0041703/C0015031	United States/Ethnic group
	FamilyIncmeSupprtPersCt	Family income supported persons count	C0021162	Income
	FamilyIncmeVal	Family income value	C0021162/C0015576	Income/Family
	FmlyIncRange	Family income range	C0021162/C0015576C0679646/C1521970	Income/Family
	GenderTyp	Sex type	C1522384	sex
	MaritPartnerStatus	Marital or partner status	C0024819	Marital Status
	MaritPartnerStatusOTH	Marital or partner status other text	C0024819	Marital Status
	MilActiveInd	Active military status indicator	C1550416	Military status
	MilDeploy	To where the military patient was deployed	C2321230C0679646/C1521970	Military Deployment
	MilMDS	Military occupational status of participant	C1550416	Military status
	MilRnkCat	Military rank category	C1550416C0679646/C1521970	Military status



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Informatics Computing System

Questions?





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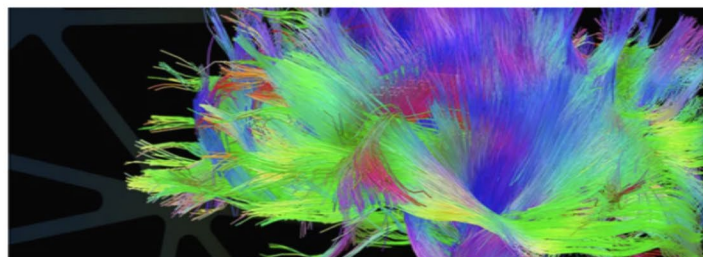
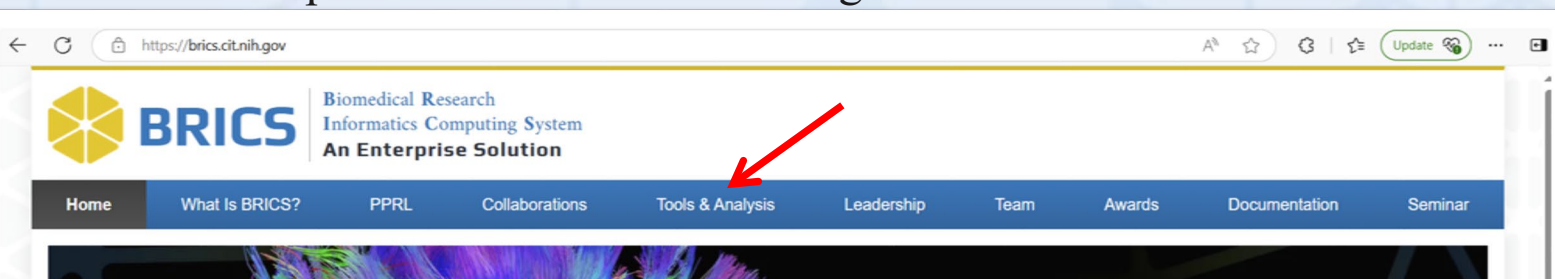
Biomedical Research Informatics Computing System (BRICS)

Data Element to UMLS Mapping Tool Update

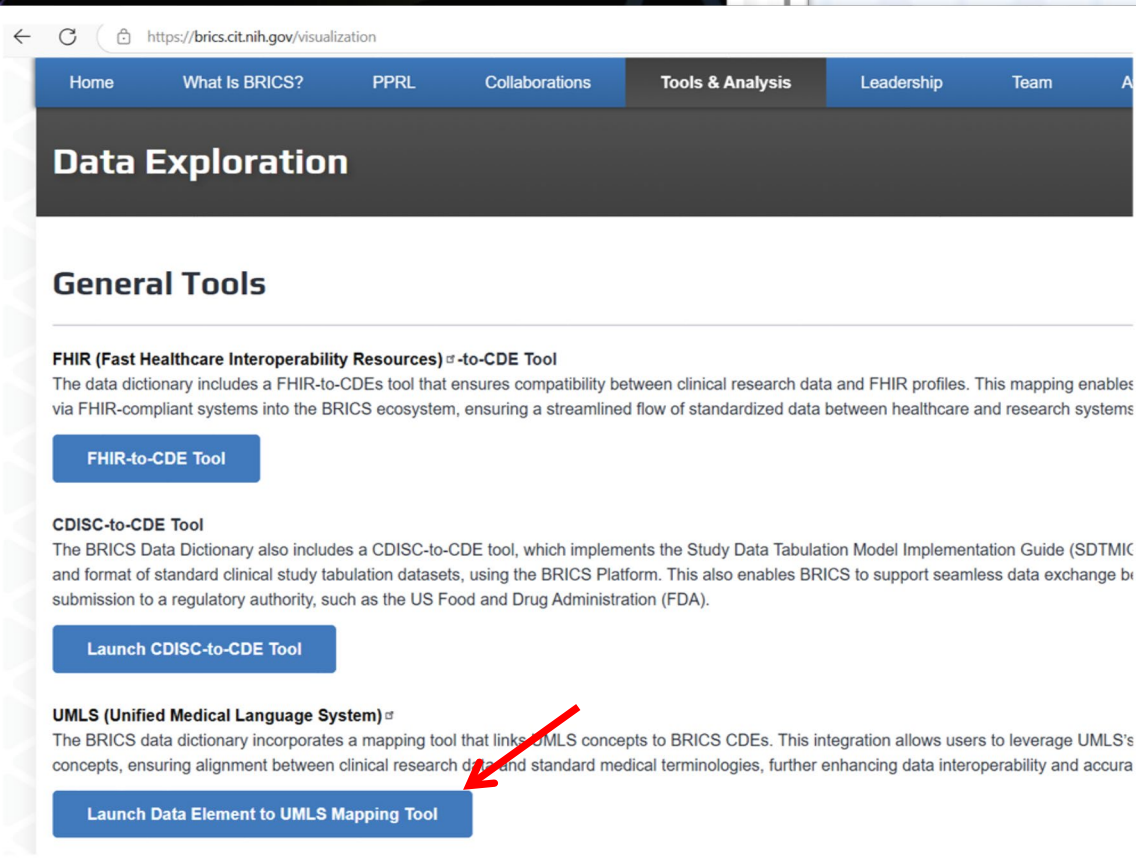
Dr. Alexandra Bokinsky



BRICS: <https://brics.cit.nih.gov/>




The Biomedical Research Informatics Computing System (BRICS) is a comprehensive platform designed to efficiently analyze research datasets. BRICS makes the performance of research trials faster, simpler, and more accurate. See how BRICS can work for you.



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Informatics Computing System

Data Element to UMLS Mapping Tool


← ↻ 🔒 <https://brics.cit.nih.gov/umls-data-elements-mapping-tool> 🌟 ⚙️ ☆ ⋮

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Biomedical Research
Informatics Computing System
An Enterprise Solution

Home What Is BRICS? PPRL Collaborations Tools & Analysis Leadership Team Awards Documentation Seminar

Data Element to UMLS Mapping Tool

Search the UMLS by CUI, Keyword Phrase, or Batch CDE Upload

 National Library of Medicine
[Unified Medical Language System \(UMLS\)](#) or
[Metathesaurus](#) or
[Semantic Network](#) or

VOCABULARIES

Select: **all** none default

☐ AIR
☐ AOD
☐ AOT
☐ ATC
☐ CCS
☐ CCSR_ICD10CM
☐ CCSR_ICD10PCS
☐ CDCREC
☐ CHV
☐ COSTAR
☐ CSP
☐ CST

SEMANTIC TYPES

Select: **all** none default

☐ Acquired Abnormality
☒ Activity
☒ Age Group
☐ Amino Acid Sequence

Keyword CUI Batch CDE Permissible Values Explore Semantic Network

Enter a keyword or phrase to search for the UMLS information.

Search Keyword or phrase: 🔍 Max results: 5 ▼ Allow CUIs without definitions: ☐

UMLS Search Tools:

- Vocabulary & Semantic Filters
- Keyword/phrase
- Concept Unique Identifier (CUI)
- Batch Data Element Processing
- Permissible Values
- Semantic Network Visualization

National
Institutes
of HealthCenter for
Information
TechnologyLearn more about BRICS at: <https://brics.cit.nih.gov>



Search phrase: “anxiety in older adults”

Keyword

CUI

Batch CDE

Permissible Values

Explore Semantic Network

Enter a keyword or phrase to search for the UMLS information.

Search Keyword or phrase:

 Max results:
☐ Allow CUIs without definitions:

KEYWORD: ANXIETY IN OLDER ADULTS

RANK	CONCEPT	CUI	DEFINITION	SEMANTIC TYPE	VOCABULARIES
1	Anxiety	C0003467	(1) MSH: Feelings or emotions of dread, apprehension, and impending disaster but not disabling as with ANXIETY DISORDERS. (2) NCI: Apprehension of danger and dread accompanied by restlessness, tension, tachycardia, and dyspnea unattached to a clearly identifiable stimulus.	Mental or Behavioral Dysfunction	14
2	Anxiety Disorders	C0003469	(1) NCI: A category of psychiatric disorders which are characterized by anxious feelings or fear often accompanied by physical symptoms associated with anxiety. (2) MSH: Persistent and disabling ANXIETY.	Mental or Behavioral Dysfunction	9
3	Performance anxiety	C0458631	MSH: Anxiety related to the execution of a task. (Campbell's Psychiatric Dictionary, 9th ed.)	Mental or Behavioral Dysfunction	5
4	Social Anxiety	C0424166	MSH: Emotion characterized by feelings of tension, worried th		
5	Dental Anxiety	C0085380	MSH: Abnormal fear or dread of visiting the dentist for preven dental procedures.		

Concept:
CUI:
Semantic Type:

Anxiety
C0003467
Mental or Behavioral Dysfunction

National Library of Medicine Unified Medical Language System (UMLS)

- Metathesaurus: contains over one million biomedical concepts from over 100 source vocabularies
- Semantic Network: defines 133 broad categories and fifty-four relationships between categories for labeling the biomedical domain



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Data Element to UMLS Mapping Tool

https://pdpb.ninds.nih.gov/dictionary/dictionary/searchDataElementAction!list.action

PDBP Parkinson's Disease Biomarkers Program | NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE | **PDBP DMR** Parkinson's Disease Biomarkers Program Data Management Resources | Welcome Administrator, Alexandra | [Log Out](#)

Home | ProFORMS | Subject Management | **Data Dictionary** | Data Repository | Tools | Query | Meta Study | Account Management

Menu

- Data Dictionary Tool
- Form Structures
- Data Elements
- Search**
- Create
- Import
- eForms
- Data Dictionary Administration

Data Dictionary

Search Data Elements

Search Locations: C0003467 [Advanced Search](#) [Launch UMLS Mapping Tool](#)

DOWNLOAD 2 RESULTS

Show 25 entries

TITLE	VARIABLE NAME	TYPE	MODIFIED DATE	STATUS
Hamilton Depression Rating Scale (HDRS) - Anxiety psychic difficulty severity scale	HDRSAnxPscDifcItnd	CDE	2023-11-01	Published
Hamilton Depression Rating Scale (HDRS) - Anxiety somatic severity scale	HDRSAnxSomtCnd	CDE	2023-11-01	Published

Showing 1 to 2 of 2 entries (filtered)

Narrow your search

[Clear Filters](#) [Restore Default](#)

Ownership

☒ All ☐ Mine

Modified Date

Status

☐ Draft
☐ Awaiting Publication
☐ Published
☐ Deprecated
☐ Retired

Element Type

☐ Common Data Element
☐ Unique Data Element

Disease

☒ Parkinson's Disease
☐ Amyotrophic Lateral Sclerosis
☐ Congenital Muscular Dystrophy

https://fitbir.nih.gov/dictionary/dictionary/searchDataElementAction!list.action

FITBIR National Informatics Computing System

Home | ProFORMS | Subject Management | **Data Dictionary** | Data Repository | Tools | Query | Meta Study | Account Management | Forum

Menu

- Data Dictionary Tool
- Form Structures
- Data Elements
- Search**
- Create
- Import
- eForms
- Data Dictionary Administration

Data Dictionary

Search Data Elements

Search Locations: C0003467 [Advanced Search](#)

DOWNLOAD 17 RESULTS

TITLE	VARIABLE NAME	TYPE	MODIFIED DATE
Brief Symptom Inventory - 18 (BSI18) - Anxiety area T score	BSI18AnxScoreT	CDE	2023-08-27
Brief Symptom Inventory - 18 (BSI18) - Anxiety raw score	BSI18AnxScoreRaw	CDE	2023-08-27
Hamilton Depression Rating Scale (HDRS) - Anxiety psychic difficulty severity scale	HDRSAnxPscDifcItnd	CDE	2023-11-01
Hamilton Depression Rating Scale (HDRS) - Anxiety somatic severity scale	HDRSAnxSomtCnd	CDE	2023-11-01
Neurobehavioral Symptom Inventory (NSI) - Anxiety impairment score	NSIAnxlyImprmntScore	CDE	2025-03-06
Patient Health Questionnaire (PHQ) - Anxiety attack bother worry repeat indicator	PHQAnxietyAttackBotherWorryInd	CDE	2024-09-19
Patient Health Questionnaire (PHQ) - Anxiety attack sometimes sudden indicator	PHQAnxietyAttackSuddenInd	CDE	2024-09-19



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Information
Technology



Learn more about BRICS at: <https://brics.cit.nih.gov>



Batch Data Element Processing

Keyword

CUI

Batch CDE

Permissible Values

Explore Semantic Network

Please upload a CDE .csv file with the data element terms, and an exclusion list (stopwords) .csv file if necessary.

Data Element CSV File:

Stopwords CSV File:

Select the header column search field:

preferred question text

Uncheck any items you do not wish to search:

- ☒ Subject's age (recorded in years):
- ☒ Is the subject in the case or control arm of the study?
- ☒ What is the subject's primary language (use the ISO 639 code)?

Default Preview:
Below is a list (editable) of stopwords from the default CSV.

&, Anatomic Site, Assessment, Consent for General and Linkage'research, Date, Date and'time, Dose, Due'to, For each item:, Identifier, Item, NOS, Number, Occurrence, Other Complication, Specify, Other, specify, POLST, QOL, SDOH, Scalar, Scale, Scale, Score, Select all'that apply from'the list below, Site, Source, Specific , Specified, Specify Other, Subclass, Text, The name'that describes, The name'that describes, Time, Times, Type, Unit of Measure, Would you say very easy, somewhat easy, or not easy at all?, a, abaft, abaft, abafest, abouter, aboutest, abover,

1. Select an input CSV file (BRICS CDE file or generic CSV)
2. Select the search column from list of headers
3. Check Data Elements to Search the UMLS

Stopwords: a set of common words, phrases, & misspellings, automatically removed from search text.



Batch Data Element Processing

Keyword

CUI

Batch CDE

Permissible Values

Explore Semantic Network

KEYWORD: AGE IN YEARS

SELECT	RANK	CONCEPT	CUI	DEFINITION	SEMANTIC TYPE	VOCABULARIES
<input checked="" type="checkbox"/>	1	Subject Age	C2348575	NCI: The age of a person who is the subject in a study.	Organism Attribute	1
<input checked="" type="checkbox"/>	2	Age-Years	C1510829	NCI: The length of a person's life, stated in years since birth.	Temporal Concept	1
<input type="checkbox"/>	3	Dog Age in Years	C5238424	NCI: The length of a dog's life, stated in years since birth.	Finding	1
<input type="checkbox"/>	4	Actual Minimum Age of Subject	C5856055	NCI: The actual minimum age of the subjects that have been entered in a clinical trial.	Finding	1
<input type="checkbox"/>	5	Actual Maximum Age of Subject	C5856056	NCI: The actual maximum age of the subjects that have been entered in a clinical trial.	Finding	1

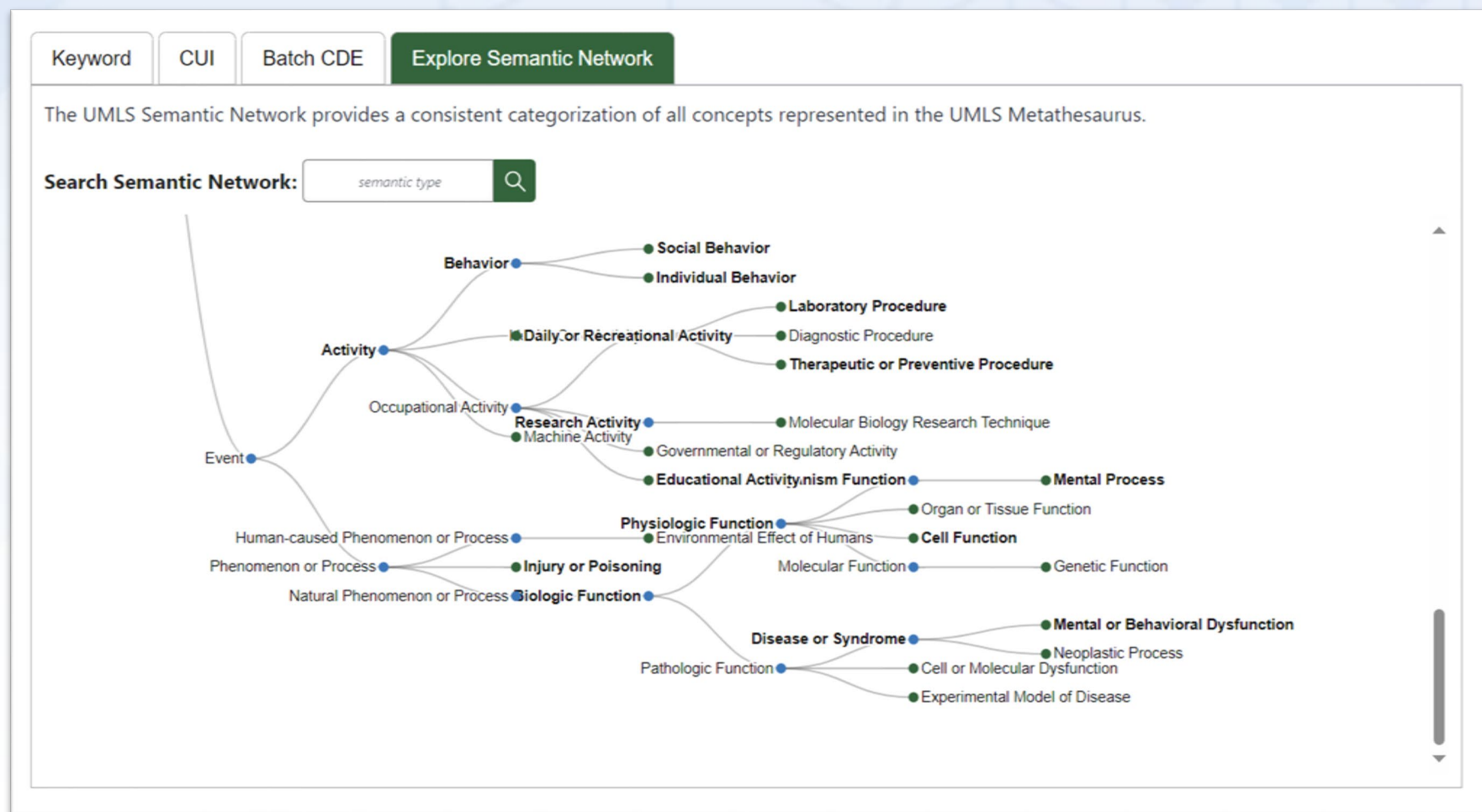
KEYWORD: CASE CONTROL INDICATOR

SELECT	RANK	CONCEPT	CUI	DEFINITION	SEMANTIC TYPE	VOCABULARIES
<input checked="" type="checkbox"/>	1	Study Subject	C0681850	NCI: A matter or an individual that is observed, analyzed, examined, investigated, experimented upon, or/and treated in the course of a particular study.	Group	1
<input type="checkbox"/>	2	Subject is Randomized	C3815594	NCI: A status indication that a subject is already assigned to an arm of a clinical trial by chance.	Finding	1
<input type="checkbox"/>	3	Study Subject Discontinuation	C5667165	NCI: The act of concluding participation by an enrolled subject prior to completion of all protocol-required elements in a trial. NOTE: Four categories of discontinuation are distinguished: a) dropout: Active discontinuation by a subject (also a noun referring to such a discontinued subject); b) investigator initiated discontinuation (e.g., for cause); c) loss to follow-up: cessation of participation without notice or action by the subject; d) sponsor initiated discontinuation. Note that subject discontinuation does not necessarily imply exclusion of subject data from analysis. "Termination of subject" has a history of synonymous use, but is now considered nonstandard. [After ICH E3, section 10.1 and FDA Guidance for Industry: Submission of Abbreviated Reports & Synopses in Support of Marketing Applications, IV A]	Research Activity	1
<input type="checkbox"/>	4	Canine Study	C5668310	NCI: A canine about whom research data is obtained through intervention or interaction with or through	Group	1



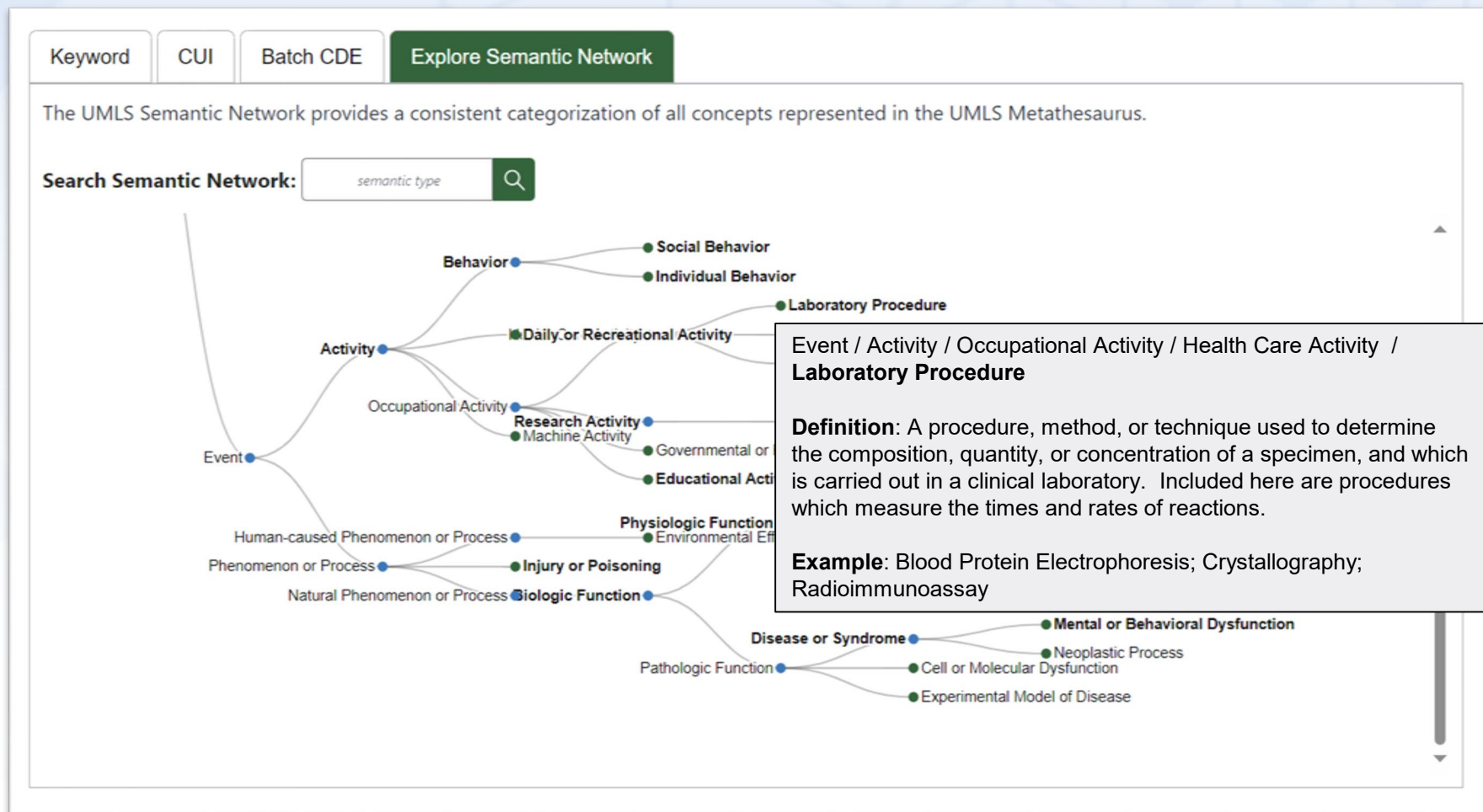


Interactive Visualization of the UMLS Semantic Network



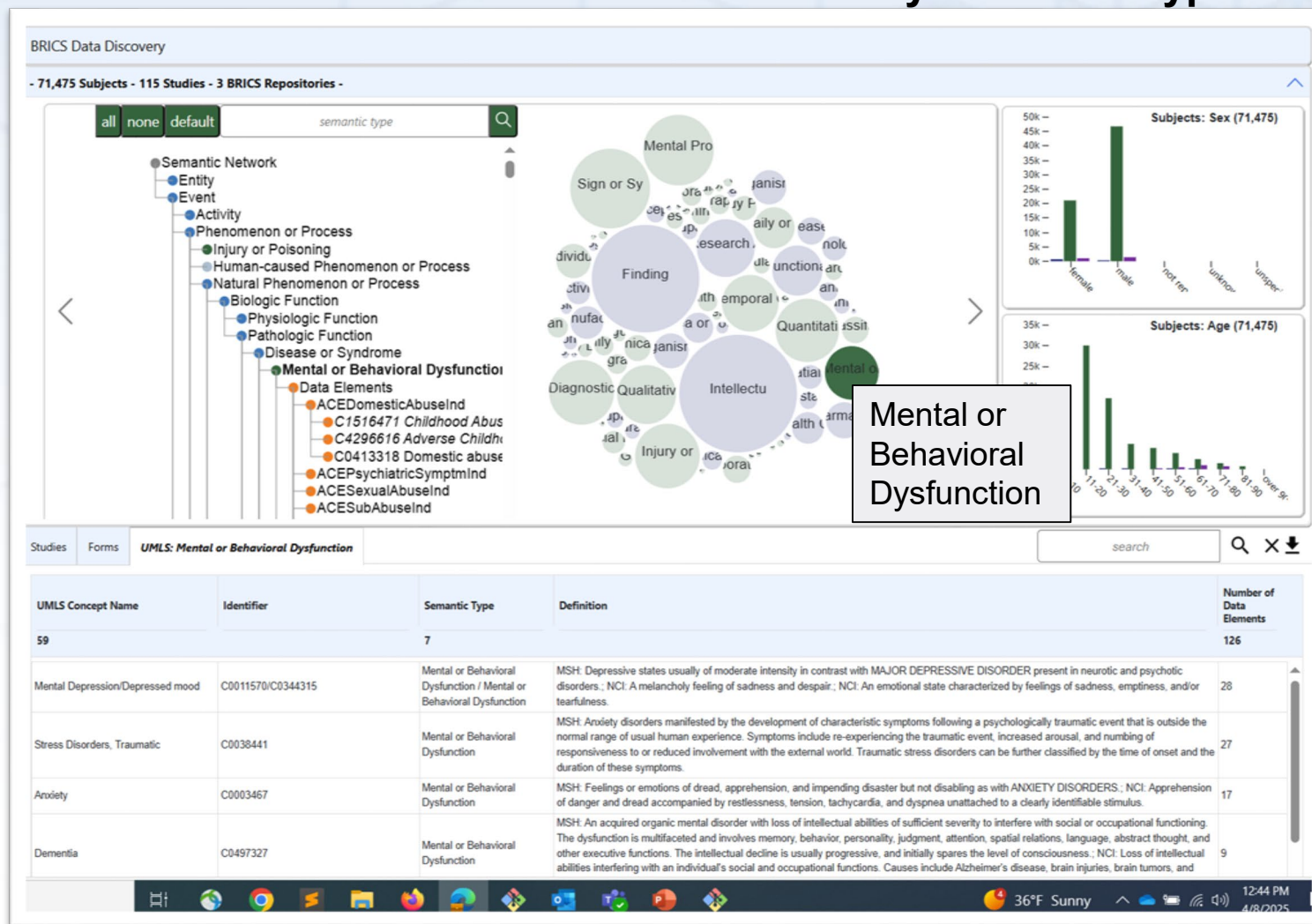


Interactive Visualization of the UMLS Semantic Network





Interactive Visualization of BRICS Data Elements by Semantic Type





Demo



BRICS

Biomedical Research
Informatics Computing System

Questions?





BRICS

Biomedical Research
Informatics Computing System

Thank you for joining in!

Will see you all on May 8th, 2025!





BRICS

Biomedical Research
Informatics Computing System

Appendix

Globus - Demo Slides

Demo – Globus Transfer

File Manager

Collection: **BRICS** Path: **/C/Users/gillisdr/Downloads/globus/**

Globus Test Storage1 Path: **/globustest1/fitbir/gillisdr/**

Start

Transfer & Timer Options

Start

NAME	LAST MODIFIED	SIZE
<input checked="" type="checkbox"/> demo	4/8/2025, 08:59 PM	—
<input type="checkbox"/> demo_big	4/8/2025, 09:00 PM	—

NAME	LAST MODIFIED
demo_big	4/8/2025, 03:13 PM

Demo – Globus Transfer

File Manager

Collection

BRICS

Path

/C/Users/gillisd/Downloads/globus/

Globus Test Storage1

/globustest1/fitbir/gillisd/

Start

Transfer & Timer Options

Start

select none

up one folder

refresh list

filter

view

NAME	LAST MODIFIED	SIZE
<input checked="" type="checkbox"/> demo	4/8/2025, 08:59 PM	—
<input type="checkbox"/> demo_big	4/8/2025, 09:00 PM	—

select all

up one folder

refresh list

filter


NAME	LAST MODIFIED	SIZE
demo	4/9/2025, 01:56 PM	—
demo_big	4/8/2025, 03:13 PM	—

Transfer request submitted successfully

View details >

Demo – Submit Files via Globus Select Globus Option

Validate and Upload Tool (Submission Tool) - JavaScript Application

 Getting started and need help? Download the [Submission Tools User Guide \(pdf\)](#)

Validation Tool

Upload Tool

Working Directory

Upload Via Globus

Upload Files


Upload Directory






Upload Via Globus

Enter Globus Folder Path

Load Directory

Files

 Hidden files will not be displayed on this table. Exp: .DS_Store, Thumbs.db, desktop.ini

 Color Legend  Requires Validation  Valid  Excluded  Error


Include Files

Exclude Files

Search: ▼

Demo – Submit Files via Globus Confirm Transfer Finished

Validate and Upload Tool (Submission Tool) - JavaScript Application

 Getting started and need help? Download the [Submission Tools User Guide \(pdf\)](#)

Validation Tool

Upload Tool

Working Directory

Upload Via Globus

To upload files using Globus

Warning

Have all of your files been uploaded to the server endpoint in Globus?


NOT YET





YES, READY TO UPLOAD

Directory

time using the Globus Web App, [click here](#) to get started.


Files

 Hidden files will not be displayed on this table. Exp: .DS_Store, Thumbs.db, desktop.ini

 Color Legend  Requires Validation  Valid  Excluded  Error

Include Files

Exclude Files

Search: 

	NAME	TYPE	STRUCTURE	STATUS	RESULT	SUMMARY
---	------	------	-----------	--------	--------	---------

No data available in table

Showing 0 to 0 of 0 entries (0 row selected of 0)

Validate Files

Build Submission Package



Demo – Submit Files via Globus Validate

Data Repository

Validate and Upload Tool (Submission Tool) - JavaScript Application

Getting started and need help? Download the [Submission Tools User Guide \(pdf\)](#)

Validation Tool

Upload Tool

Working Directory

Upload Via Globus Enter Globus Folder Path

Load Directory

To upload files, first connect to the Globus Web App. If you are not already logged in, click [here](#) to get started.

Files

All files are valid.
Click on a validated file from the list to view its warnings and/or errors.

Hide

Color

OK

Include Files

Exclude Files

Search:

<input type="checkbox"/>	NAME	TYPE	STRUCTURE	STATUS	RESULT	SUMMARY
<input checked="" type="checkbox"/>	imagingmr_output_1622820745938.csv	FORM STRUCTURE	ImagingMR	Published	PASSED	15 Warnings
<input type="checkbox"/>	test.jpg	ASSOCIATED				
<input type="checkbox"/>	test.nii	ASSOCIATED				

Showing 1 to 3 of 3 entries (1 row selected of 3)

Validate Files

Build Submission Package





Demo – Submit Files via Globus Transfer Start

Submission package

The study to be uploaded to is shown below. If you wish to change this field, you may recreate the submission in the Validation Tool tab.

Study Name

Globus Demo

This is the list of dataset names to be submitted. You may scroll through this list to verify they are correct.

Dataset Names

test_submission_0_ImagingMR

Dataset Names

This is the list of dataset names to be submitted. You may scroll through this list to verify they are correct, flag them, and add descriptions.

NAME	STATUS		DESCRIPTION	ACTION
test_submission_0_ImagingMR	Uploading		Add description	Edit

Showing 1 to 1 of 1 entries

Start Submission Upload

Cancel Submission Upload

Submission times vary. Remain on page until a successful submission message is displayed. Close any other existing system tabs and do not open any other system tabs.

Upload Queue

NO.	FILE NAME	STUDY	DATASET	UPLOAD SPEED	UPLOAD PROGRESS	TIME REMAINING	STATUS
1	imagingmr_output_1622820745938.csv	FITBIR-STUDY0000538	test_submission_0_ImagingMR		<div><div></div></div> 0.0%		Uploading
2	test.nii	FITBIR-STUDY0000538	test_submission_0_ImagingMR		<div><div></div></div> 0.0%		Uploading
3	test.jpg	FITBIR-STUDY0000538	test_submission_0_ImagingMR		<div><div></div></div> 0.0%		Uploading

Showing 1 to 3 of 3 entries

FIRST PREVIOUS 1 NEXT LAST

Clear Completed Submissions

Clear Canceled Submissions





Demo – Submit Files via Globus Upload Complete

Submission package

The study to be uploaded to is shown below. If you wish to change this field, you may recreate the submission in the Validation Tool tab.

Study Name

Globus Demo

This is the list of dataset names to be submitted. You may scroll through this list to verify they are correct.

Dataset Names

test_submission_0_ImagingMR

Dataset Names

This is the list of dataset names to be submitted. You may scroll through this list to verify they are correct, flag them, and add descriptions.

NAME	STATUS		DESCRIPTION	ACTION
test_submission_0_ImagingMR	Complete		Add description	Edit

Showing 1 to 1 of 1 entries

Start Submission Upload

Upload Complete



All data uploads have been completed.

OK

Submission times vary. Remain on system tabs.

d. Close any other existing system tabs and do not open any other

Upload Queue

NO.	FILE NAME	STUDY	DATASET	UPLOAD SPEED	UPLOAD PROGRESS	TIME REMAINING	STATUS
1	imagingmr_output_1622820745938.csv	FITBIR-STUDY0000538	test_submission_0_ImagingMR	0 B/s	100.0%	0 seconds	Completed
2	test.nii	FITBIR-STUDY0000538	test_submission_0_ImagingMR	0 B/s	100.0%	0 seconds	Completed
3	test.jpg	FITBIR-STUDY0000538	test_submission_0_ImagingMR	0 B/s	100.0%	0 seconds	Completed

Showing 1 to 3 of 3 entries

FIRST PREVIOUS 1 NEXT LAST

