

# MUSC I2B2 User Guide

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## More Info

[I2b2 Sponsorship Form Download Link](#)

[I2B2 FAQ](#)

# What is I2B2

- ◆ Informatics for Integrating Biology & the Bedside
- ◆ Analytic Query Tool
- ◆ Open Source
- ◆ NIH-funded National Center for Biomedical Computing
- ◆ Established in 2004
- ◆ Based at Partners HealthCare System

- ◆ Enables researchers to query clinical data for discovery research
- ◆ Platform adopted by many national and international CTSA networks and healthcare centers
- ◆ Data is structured to feed TriNetX

# Navigation

The screenshot shows a software interface for navigating clinical data. It is divided into several main sections:

- Navigate Terms:** A tree view on the left containing categories like Allergies, Assessments, Cancer Registry, Clinical Results, Clinical Trials, Computable Phenotypes, Demographics (with sub-items like Age, Ethnicity, Gender, Female, Indetermined, Male, Other, Unknown), Marital Status, Military Status, and Patient Status. A callout points to this area: "Select terms you're looking for. Diagnoses, Labs, Demographics, etc..".
- Workplace:** A section for saving queries, showing a folder named "als280@musc.edu". A callout says: "Save your past queries to a folder for later reference".
- Query Tool:** The central workspace for building queries. It features a "Query Name" field (Epilep-Female@12:56:44), a "Temporal Constraint" dropdown (Treat Independently), and three group panels (Group 1, Group 2, Group 3). Group 1 contains "Epilepsy and recurrent seizures" and "Schizophrenic Disorders". Group 2 contains "Female". Group 3 is empty. Logical connectors "AND" and "one or more of these" are visible between groups. A callout says: "Drag and drop terms into these group panels".
- Run Query Button:** A button at the bottom of the Query Tool section. A callout says: "Run Query Button".
- Previous Queries:** A list at the bottom left showing recent queries with their names, dates, and user IDs. A callout says: "Your recent queries".
- Results Summary:** A box at the bottom right displaying "Number of patients" as **6165** for the query "Epilep-Female@12:56:44". A callout says: "Number of results".

# How Groups Work

Query Name: Epilep-Female@12:56:44

Temporal Constraint: Treat Independently

Group 1	Group 2	Group 3
Epilepsy and recurrent seizures Schizophrenic Disorders	Female	

one or more of these    AND    one or more of these    AND    drop a term on here

Run Query    Clear    2 Groups    New Group

Show Query Status    Graph Results    Query Report

Number of patients  
**6165**  
For Query "Epilep-Female@12:56:44"

This query is for:  
Patents with Seizures OR  
patents with a Schizophrenic Disorder  
AND patents who are female.

# Selecting Terms

**Navigate Terms** Find

- Demographics
- Diagnoses
  - Primary Diagnosis Flag
  - ROM
  - SOI
  - ICD10CM
    - Primary Diagnosis Flag
    - ROM
    - SOI
  - ICD9CM
    - Primary Diagnosis Flag
    - ROM
    - SOI
    - Diseases And Injuries
    - Supplementary Classification Of External Causes Of Injury And Poisoning
    - Supplementary Classification Of Factors Influencing Health Status And Contact With Health Services
- Immunizations
- Labs
- Medications
- Problem List
- Procedures

If your study requires; select terms from the ICD10 and ICD9 Diagnoses folders. Also grab your terms from the Problem List folder. I2B2 does not lump all of these together.

Choose to search by name or code

**Navigate Terms** Find

Search by Names Search by Codes

Find ICD10 Diagnoses

Select the type of code you want to search with

If you're having trouble finding your term in the Navigate Terms tree select Find and try searching for your term either by its name or its code.

# Demographics

## Run Query

Please type a name for the query:

Diabete- 65-74@10:11:47

Please check the query result type(s):

- Patient set
- Encounter set
- Number of patients

OK

Cancel

AND

1) After selecting Run Query this window pops up. Make sure to check Patient Set in order to see demographics for this query. Click OK.

Find Patients | Analysis Tools | Help | Change Password | Logout

Detailed List View Category: ALL

- Demographics (1 Patient Set) - Simple Counts  
This plugin displays a demographic break-down of a Patient Set.
- Demographics (2 Patient Sets) - Simple Counts  
This plugin compares the demographic break-down of two Patient Sets.
- Timeline  
This plugin creates a visual representation of when selected observations occur within a given patient set.
- Workplace Items Sharing Enhancement - Searcher  
This plugin facilitates searching for similar Workplace items (folder, query, patient set, etc.) within the web client framework.
- CARE (Cohort Analysis & Refinement Expeditor) - Concept  
Demographics Histograms  
This plugin generates the histograms of of a Patient Set against those from that specified concepts.
- CARE (Cohort Analysis & Refinement Expeditor) - Observation Tally Demographic  
This plugin generates the histograms of of a Patient Set against those from that specified concepts.
- ExportXLS  
This plugin tabulates unidentified patient provides options to download the result t

Click here to view more plugins in i

2) After your search is done click the arrow next to Analysis Tools at the top right of your screen. Click the Demographics (1 Patient "Set) - Simple Counts analysis tool

izb2 Query & Analysis Tool Project: MUSC User: als280 Find Patients | Analysis Tools | Help | Change Password | Logout

Demographics

Specify Data View Results Plugin Help

Drop a Patient Set into the input box below, and then click the "View Results" tab to retrieve demographic details for the selected patient set.

Patient Set: Drop a small Patient Set here

Workplace

- SHARED
- als280@muscc.edu

Previous Queries Find

- Epilep-Female@08:37:20 [10-16-2019] [als280@muscc.edu]
- Results of Epilep-Female@08:37:20 [10-16-2019] [als280@muscc.edu] - COMPLETED
- Patient Set for " Epilep-Female@08:37:20" - FINISHED
  - Number of patients for " Epilep-Female@08:37:20" is 6258 - FINISHED
- Malign-Female@11:40:40 [10-14-2019] [als280@muscc.edu]
- Cardia-White\_O@11:39:59 [10-14-2019] [als280@muscc.edu]

Number of patients for "Diabete- 65-74@10:11:47" is 32197 - FINISHED

Diabete- 65-74@09:10:02 [10-8-2019] [als280@muscc.edu]

Mental\_Rehaus@14:40:05 [10-1-2019] [als280@muscc.edu]

3) Drag and drop your patient set from the Previous Queries window into the Patient Set box then click view results

## Demographics

Specify Data

View Results

Plugin Help

### Age in Years

0-10	64	
10-20	521	
20-30	753	
30-40	1518	
40-50	2408	
50-60	4416	
60-70	10126	
70-80	9520	
80-90	2871	

### Sex

FEMALE	25317	
MALE	6880	

### Race

AMERICAN INDIAN OR ALASKA NATIVE	52	
ASIAN	231	
BLACK OR AFRICAN AMERICAN	15060	
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER	20	
OTHER	638	
PATIENT REFUSED	80	
UNKNOWN	105	
WHITE OR CAUCASIAN	16006	

### Marital Status

DIVORCED	2757	
LEGALLY SEPARATED	917	
MARRIED	15600	
SIGNIFICANT OTHER	73	
SINGLE	8143	
UNKNOWN	604	
WIDOWED	4102	

This window shows the demographics of your cohort. De-identified data only.

Click Find Patents at the top right of the screen to go back

# Exclusion

The screenshot shows a 'Query Tool' window with the following details:

- Query Name:** Lupus - Diabet@09:12:52
- Temporal Constraint:** Treat all groups independently
- Group 1:** Contains 'Lupus erythematosus' with 'Occurs > 0x' and an 'Exclude' button.
- Group 2:** Contains 'Diabetes Mellitus' with 'Occurs > 0x' and an 'Exclude' button.
- Buttons:** 'Run Query', 'Clear', 'New Group', 'Show Query Status', 'Graph Results', 'Query Report'.
- Results:** A box displays 'Number of patients' as **663** for the query 'Lupus - Diabet@09:12:52'.

**Annotations:**

- An arrow points to the 'Exclude' button in Group 2 with the text: "Click Exclude to eliminate patients that have data for a concept".
- A text box states: "This query is searching for patients who have been diagnosed with Lupus but have not been diagnosed with Diabetes".

# Other useful info

You can drag and drop past queries into the Query Name box to use them again.

Click Dates to set a date criteria.

Click Exclude to remove the terms in this group from the search results

drop a term on here

The screenshot shows a web-based query tool interface. At the top, it displays 'Project: MUSC' and 'User: als280'. The main area is titled 'Query Tool' and contains a 'Query Name' field, a 'Temporal Constraint' dropdown set to 'Treat all groups independently', and three groups (Group 1, Group 2, Group 3). Each group has a 'Dates' button and an 'Exclude' button. A yellow callout box points to the 'Dates' button in Group 1 with the text 'Click Dates to set a date criteria.' Another callout box points to the 'Exclude' button in Group 2 with the text 'Click Exclude to remove the terms in this group from the search results'. A third callout box points to the main workspace area with the text 'drop a term on here'. On the left, there is a 'Workplace' section with a tree view showing folders like 'SHARED' and 'als280@musc.edu'. Below that is a 'Previous Queries' section with a list of saved queries. At the bottom, there are buttons for 'Run Query', 'Clear', and 'New Group', along with tabs for 'Show Query Status', 'Graph Results', and 'Query Report'.

# Getting access to I2B2

MUSC faculty and sponsored staff member have access.  
All non-faculty users must be sponsored by a MUSC  
faculty member.

Email completed sponsorship form to  
[datarequest@musc.edu](mailto:datarequest@musc.edu)

Access is granted within 1-2 business days.

[Download sponsorship form](#)

# I2B2 vs. TriNetX

## I2B2

- ◆ More specific queries
- ◆ Populated from data stored in the Research Data Warehouse (RDW)
- ◆ ICD9 and ICD10 code are separate

## TriNetX

- ◆ Quicker searches
- ◆ Easier to navigate
- ◆ Epic encounter data since 5/17/2012
- ◆ Problem list and Dx codes are mapped together
- ◆ ICD9 Codes are mapped to ICD10 codes