

Using BigMouth – Registered user

Logging in to BigMouth

Open the URL <https://bigmouth.uth.edu/secure> in a web browser and click on “Access BigMouth >> Quick start”

The screenshot displays the BigMouth Dental Data Repository website. The header includes the UTHealth Houston logo and the site title. A navigation bar contains links for 'About Us', 'Join BigMouth', 'Access BigMouth', 'Research and Publications', 'Contact', and 'Login'. A dropdown menu is open under 'Access BigMouth', with a red arrow pointing to the 'Quick Start' option. The main content area features a 3D wireframe model of a tooth, a bar chart, a line graph, and a small 3D tooth model. Below the main content is an 'About BigMouth' section with a brief description of the database and its access method.

BigMouth Dental Data Repository

UTHealth Houston

ABOUT CAREERS NEWS EVENTS A-Z WEBMAIL INSIDE THE UNIVERSITY

About Us Join BigMouth Access BigMouth Research and Publications Contact Login

BigMouth Dental Data Repository

- Quick Start
- Research Requests
- Release Notes
- Register a New User

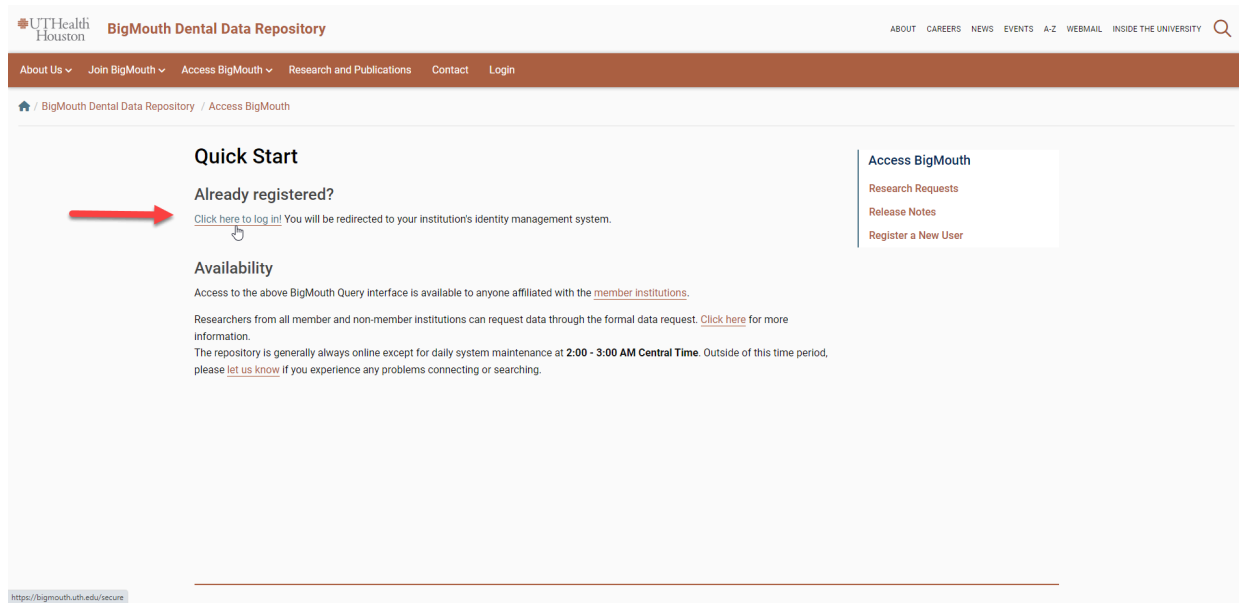
BigMouth Dental Data Repository

About BigMouth

BigMouth is an oral health database developed from partially de-identified electronic health record data contributed by several dental institutions. Access to the database is provided by i2b2, an open-source data warehousing tool.

<https://www.uth.edu/bigmouth/access/quick-start>

Click on “Click here to log in”



The screenshot shows the BigMouth Dental Data Repository website. The header includes the UTH Health Houston logo and the site title. A navigation bar contains links for About Us, Join BigMouth, Access BigMouth, Research and Publications, Contact, and Login. A search icon is also present. Below the navigation bar, a breadcrumb trail shows the current page: BigMouth Dental Data Repository / Access BigMouth. The main content area is titled "Quick Start" and features a section for "Already registered?" with a red arrow pointing to the "Click here to log in!" link. Below this is an "Availability" section with text about system access and maintenance. A sidebar on the right titled "Access BigMouth" contains links for Research Requests, Release Notes, and Register a New User. The URL bar at the bottom left shows "https://bigmouth.uth.edu/secure".

For InCommon Federation Members – Enter your organization's name, click 'Continue', select your institutional logo, and log in using your organization-provided username and password on the Shibboleth authentication page.



The University of
Texas System

Select your institution

This service requires you to authenticate with your home institution. Make a selection below and click continue.

Please don't bookmark this page

Use a suggested selection:



Marquette
University



The University of
Texas Health Sc...

Or enter your organization's name

Continue

[Allow me to pick from a list](#)

Always follows this selection

- Never
- One day
- 3 months
- 9 months

UTHealth Authentication

UT ID:

Password:

Login

[change password](#) | [password help](#)



WARNING! You are currently accessing a protected information resource. Unauthorized use is **PROHIBITED!** Usage of this system may be subject to security testing and monitoring. Misuse is subject to criminal prosecution. There is no expectation of privacy except as otherwise provided by applicable privacy laws.

[privacy & security](#) | [contact](#) | [UTHealth](#)
date last modified: July 1, 2010

BigMouth layout

i2b2 Query & Analysis Tool Project: COHRI UTH User: Krishna Kumar Kookal Find Patients | Analysis Tools | Help | Logout

Navigate Terms | **Find Terms**

- Axium
 - UTH
 - Demographics - 245976
 - Diagnosis - 13192
 - Forms - 23809
 - Odontogram - 241905
 - Perio - 20573
 - Procedures - 113671
 - Providers
 - COHRI
 - Demographics - 1178716
 - Dental Procedures - 517288
 - Diagnosis - 125862
 - Forms - 124866
 - Odontograph - 193163
 - [Perio - 0]
 - [Providers - 0]

Navigate Terms Tab: Users can manually lookup for terms by browsing through the hierarchy.

Find Terms Tab: Search concepts using a word,

Query Tool

Query Name: Forms@09:45:41

Temporal Constraint: Treat all groups independently

| Group 1 | | | Group 2 | | | Group 3 | | |
|---------------------|-------------|---------|---------------------|-------------|---------|---------------------|-------------|---------|
| Dates | Occurs > 0x | Exclude | Dates | Occurs > 0x | Exclude | Dates | Occurs > 0x | Exclude |
| Treat Independently | | | Treat Independently | | | Treat Independently | | |
| Forms - 23809 | | | | | | | | |

one or more of these AND drop a term on here

Run Query Clear Print Query 1 Group New Group

Previous Queries

- Forms@09:45:41 [6-26-2012] [kkookal@uth.tmc.edu]
- Perio@09:37:38 [6-26-2012] [kkookal@uth.tmc.edu]
- ABNORMALITIES O@11:37:28 [6-21-2012] [kkookal@uth.tmc.edu]
- Bleedin-Age@12:54:33 [6-2-2012] [kkookal@uth.tmc.edu]

Previous Queries: Queries previously run by the logged in user.

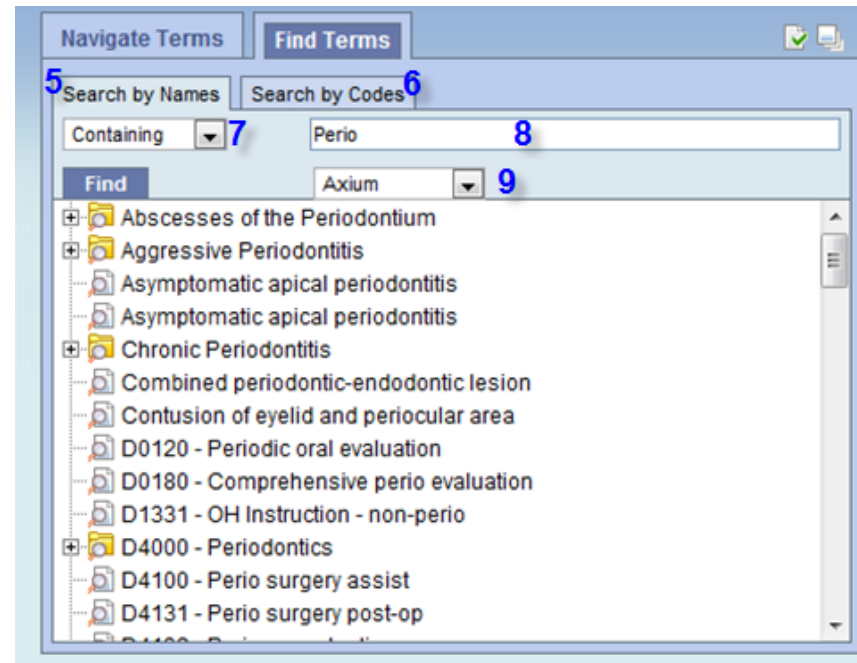
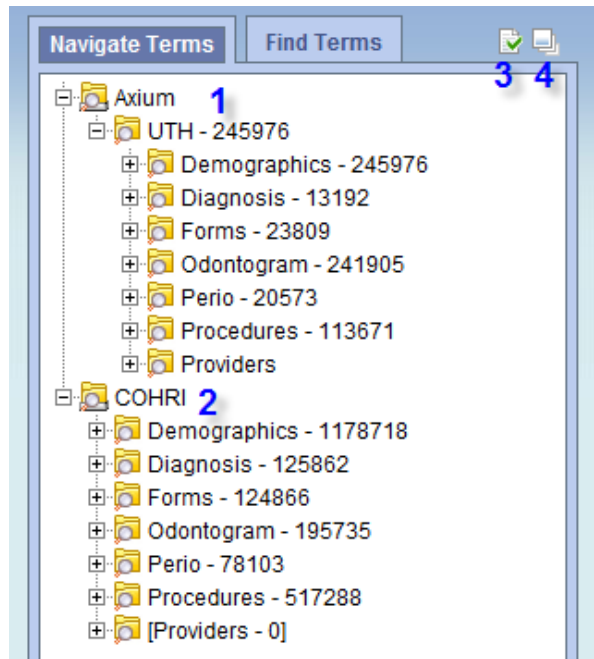
Query Status


Finished Query: "Forms@09:45:41" [17.0 secs]
 Compute Time: 14.7 secs

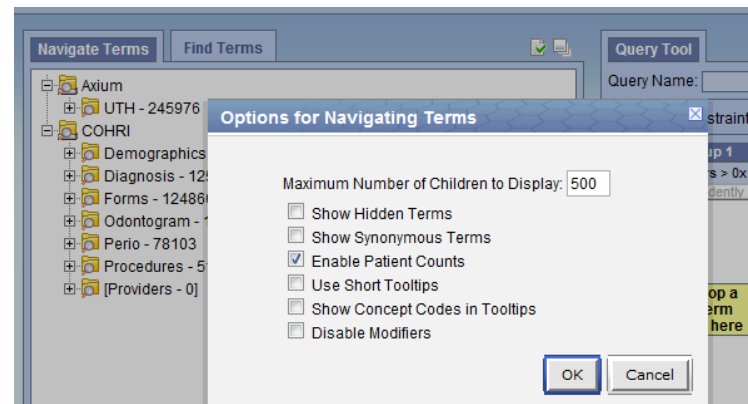
Number of patients for "Forms@09:45:41"
 patient_count: 23809


Query Status: User can view the status of the current query. Once the query completes its execution, the patient count and other details are displayed here.

1. Navigate Terms/Find Terms Section



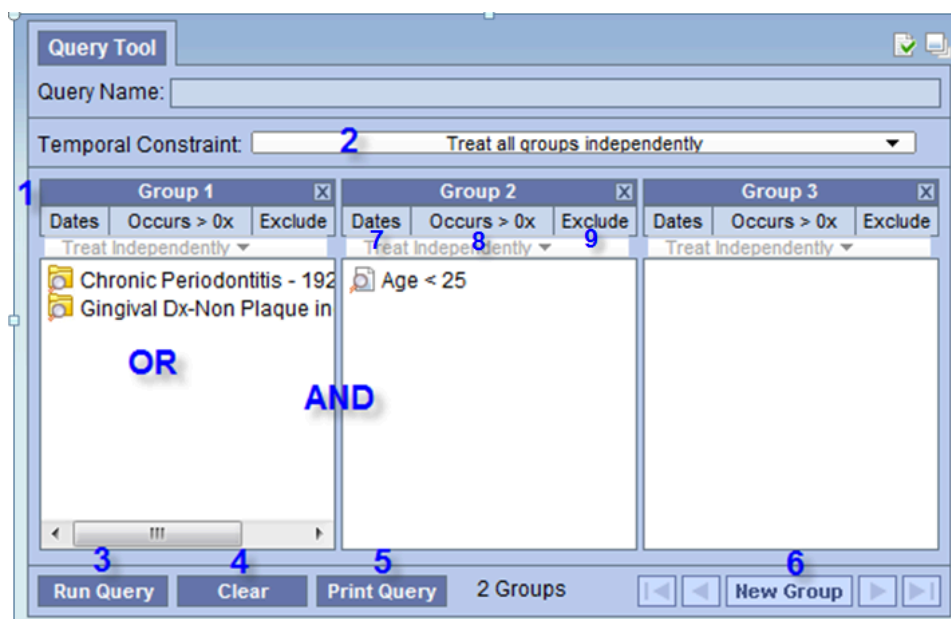
1. Site specific terminology: The axiUm node contains the site specific terminologies. Users can query for data available in axiUm at their own site. The number displayed adjacent to each folder/leaf node represents the number of patients.
2. COHRI terminology: This folder provides an integrated terminology system that allows users to query for data from more four schools
3. Options: Clicking on the  icon opens a small popup window (shown below) where users can customize the way the terms are displayed.



4. Expand: Clicking on the  icon expands the “Navigate Terms” section.
5. Search by Names: Users can use this tab to search terms by its name.
6. Search by Code: Users can search terms using their BigMouth code and description. These codes are different from the axiUm codes. These codes can be found by hovering over the terms.
7. Operators: User can use various operators while searching the term by name and code.
8. User can specify the search text in the space provided.
9. Users can specify whether they want to search in the site specific terminology or COHRI terminology.

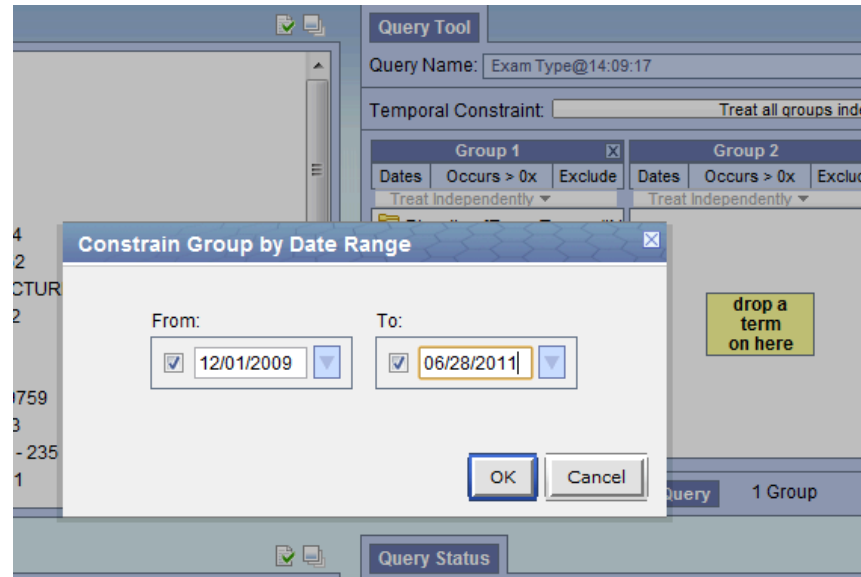
2. Query Tool Section

The query tool comprises of many groups where a user can specify the inclusion and exclusion criteria of patients.

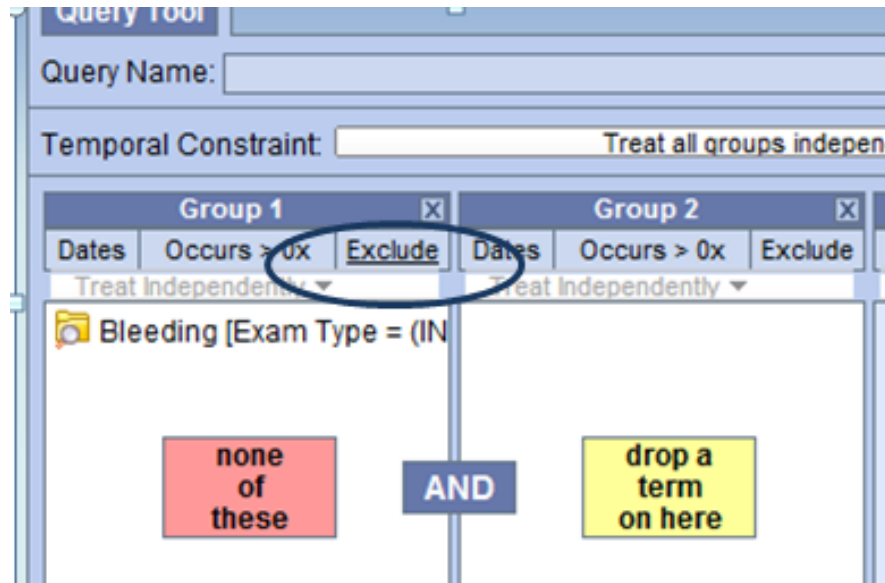


1. **Groups:** User can create as many groups as they like. A group can contain more than one term. A patient satisfying any one of the terms (conditions) in a group will be counted towards the final result. If more than one group is used, only patients satisfying conditions in all groups will be considered towards the final result. Users can add as many groups as required.
2. **Temporal Constraint:** This lets users specify if they would like to find patients from the same encounter. This feature is currently (as of June 2012) not supported in COHRI i2b2.
3. **Run Query:** Users can execute queries by clicking on the “Run Query” button.
4. **Clear:** Users can reset the content in the query tool by clicking on the “clear” button.
5. **Print Query:** Users can print the query for future reference by clicking on “Print Query” button.

- New Group:** Users can create new groups by clicking on “New Group” button.
- Dates:** Users can specify the date range of the encounters as shown below

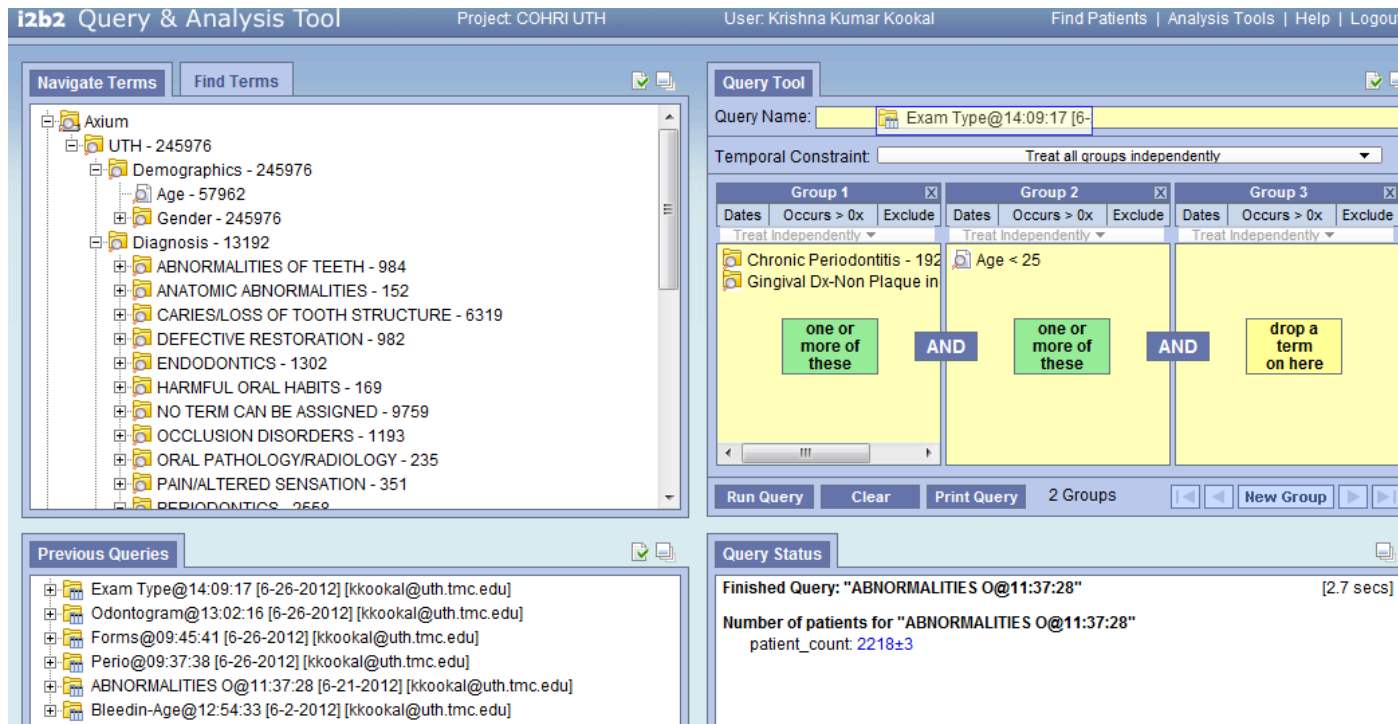
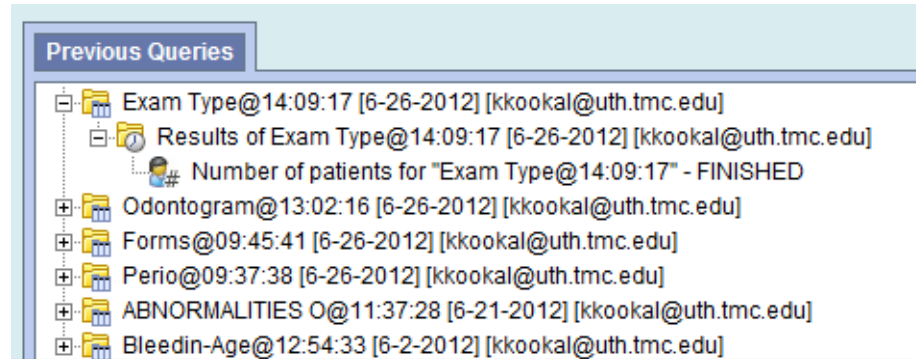


- This function is disabled**
- Exclude/Include:** Users can exclude or include the terms in a group.



3. Previous Queries Section

Users can view a summary of previously run queries in the “Previous Queries” section. In order to view the complete details of the query, user can drag and drop the query to the “Query Name” area within the “Query Tool” section.



How to run a query?

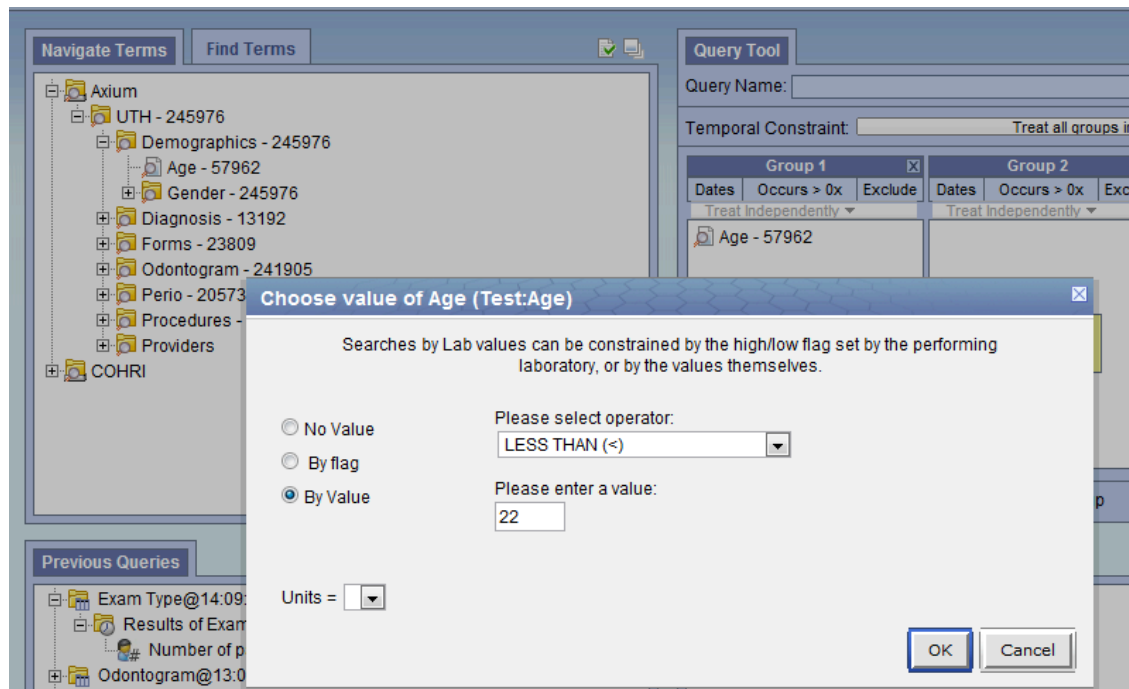
STEP 1: Identify the concept(s)/term(s) from the “Navigate Terms” section

STEP 2: Drag and drop the selected term to a group in the “Query tool” section. Specify date range, exclusion criterion as needed.

The screenshot displays a software interface for building a query. It is divided into several sections:

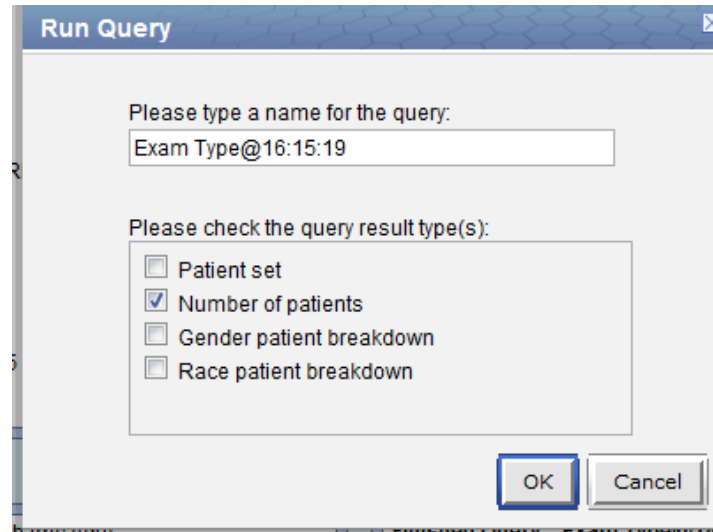
- Navigate Terms:** A hierarchical tree structure showing categories like 'Axiom', 'UTH - 245976', 'Demographics - 245976', 'Diagnosis - 13192', and 'ANATOMIC ABNORMALITIES - 152'. Under 'Diagnosis', there is a sub-category 'ABNORMALITIES OF TEETH - 984' which includes terms like 'Cementum Defect - 23', 'Dentin Defect - 40', 'Enamel and Dentin Defect - 163', etc.
- Query Tool:** A panel for constructing the query. It includes 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 columns for 'Dates', 'Occurs > 0x', and 'Exclude'. Group 1 contains 'Age < 22'. Group 2 contains 'ABNORMALITIES OF TEETH' and 'Dentin Defect - 40'. Group 3 is empty. The groups are connected by 'AND' operators. A yellow box highlights the 'Dentin Defect - 40' term with the instruction 'drop a term on here'. A green box highlights the 'Age < 22' term with the instruction 'one or more of these'. Another green box highlights the 'ABNORMALITIES OF TEETH' term with the instruction 'one or more of these'. At the bottom of the Query Tool are buttons for 'Run Query', 'Clear', 'Print Query', and 'New Group'.
- Previous Queries:** A list of previously executed queries, including 'Exam Type@14:09:17 [6-26-2012] [kkookal@uth.tmc.edu]', 'Results of Exam Type@14:09:17 [6-26-2012] [kkookal@uth.tmc.edu]', 'Odontogram@13:02:16 [6-26-2012] [kkookal@uth.tmc.edu]', 'Forms@09:45:41 [6-26-2012] [kkookal@uth.tmc.edu]', 'Perio@09:37:38 [6-26-2012] [kkookal@uth.tmc.edu]', 'ABNORMALITIES O@11:37:28 [6-21-2012] [kkookal@uth.tmc.edu]', and 'Bleedin-Age@12:54:33 [6-2-2012] [kkookal@uth.tmc.edu]'.
- Query Status:** A panel for displaying the results of the query, currently empty.

Modifiers can be added to certain terms. A popup window is displayed when such terms are added to the “Query Tool” section. For example, when querying for age, users can specify the operator and the value (example shown below).



STEP 3: Click on the Run Query button

STEP 4: Specify the format of the result in the small popup window that appears after clicking on "Run Query" button. Please note that the "Patient Set" option is not available to all users.



Step 5: View results in the "Query Status" section

Finished Query: "Perio@16:18:11"

Compute Time: 7.5 secs

Patient Set for "Perio@16:18:11"

Race patient breakdown for "Perio@16:18:11"

American Indian or Alaska Native: 61

Asian: 1231

Black or African American: 2675

Some Other Race: 4185

White: 6525

Gender patient breakdown for "Perio@16:18:11"

Female: 11940

Male: 8062

Others: 2

Unknown: 569

Number of patients for "Perio@16:18:11"

patient_count: 20573

Example Query

How many patients ages 45 and older have been diagnosed with chronic periodontitis and a cardiovascular condition?

The screenshot displays the i2b2 Query & Analysis Tool interface. The top navigation bar includes the tool name, project (COHRI UTH), user (Krishna Kumar Kookal), and various utility links. The main workspace is divided into several panels:

- Navigate Terms:** A tree view showing a hierarchy of terms under 'Axiom' and 'UTH - 245976'. A callout box points to the 'Diagnosis' folder, stating: "Number of patient having information regarding this condition".
- Query Tool:** Contains the query name 'Age-Chron-073 -@12:42:11' and a temporal constraint 'Treat all groups independently'. It features three columns for query groups:
 - Group 1:** Contains the condition 'Age > 45'.
 - Group 2:** Contains 'Chronic Periodontitis - 192' with sub-terms like 'Generalized Moderate', 'Generalized Severe', 'Localized Moderate', 'Localized Severe', 'Localized Slight Chronic', 'Peri-implantitis', 'Periodontitis', and 'Refractory Periodontitis'.
 - Group 3:** Lists 11 cardiovascular conditions, including '073 - YES-Infective endoc...', '074 - YES-Coronary artery', '075 - YES-Heart attack - 59', '078 - YES-Congestive hea', '079 - YES-Hypertension - 8', '080 - YES-Atrial fibrillation', '081 - YES-Heart block - 20', '083 - YES-Pacemaker/Imp', '082 - YES-Cardiac arrhythm', '084 - YES-Rheumatic feve', '085 - YES-Heart murmur -', '086 - YES-Mitral valve prola', '087 - YES-Deep vein throm', '088 - YES-Stroke (CVA) or', '096 - YES-Shortness of br', '097 - YES-Shortness of br', '098 - YES-Palpitations - 77', '099 - YES-Anginal/Chest p', '100 - YES-Dizziness/Light', and '101 - YES-Swelling of the e'.
- Workplace:** A large empty area for query results.
- Previous Queries:** A list of recent queries, including 'Age-Chron-073 -@12:42:11 [6-28-2012] [kkookal]'.
- Query Status:** Shows the query execution details: 'Finished Query: "Age-Chron-073 -@12:42:11" [43.6 secs]', 'Compute Time: 41.6 secs', and 'Number of patients for "Age-Chron-073 -@12:42:11" patient_count: 586'.

Note: a common question regarding patient count: why the patient counts don't add up?

The reason is because one patient may have more than one specific condition. For example, total number of patients of the category "Abnormalities of teeth" in the picture below is 984. The number of patients of the subcategories of the category "Abnormalities of teeth" adds up to 1041. This is because one patient may be in both subcategories such as "Cementum Defect" and "Dentin Defect".

The screenshot displays a clinical data query tool interface with several panels:

- Navigate Terms:** A hierarchical tree structure showing the following categories and counts:
 - Axium
 - UTH - 245976
 - Demographics - 245976
 - Age - 57962
 - Gender - 245976
 - Diagnosis - 13192
 - ABNORMALITIES OF TEETH - 984
 - Cementum Defect - 23
 - Dentin Defect - 40
 - Enamel and Dentin Defect - 163
 - Enamel Defect - 158
 - Eruption Abnormalities - 541
 - Number Alteration - 77
 - Pulp Abnormalities - 4
 - Shape Alteration - 26
 - Size Alteration - 9
 - ANATOMIC ABNORMALITIES - 152

- Query Tool:** A query builder interface with a "Query Name" field and a "Temporal Constraint" dropdown set to "Treat all groups independently". It features three groups:
- Group 1:** Contains "Age < 22".
- Group 2:** Contains "ABNORMALITIES OF TEETH" and "Dentin Defect - 40".
- Group 3:** Is currently empty.Logical connectors "AND" are placed between the groups. Green boxes labeled "one or more of these" are positioned under Group 1 and Group 2. A yellow box labeled "drop a term on here" is positioned under Group 3. Buttons at the bottom include "Run Query", "Clear", "Print Query", and "New Group".
- Previous Queries:** A list of recent queries with details such as "Exam Type@14:09:17 [6-26-2012] [kkookal@uth.tmc.edu]" and "Results of Exam Type@14:09:17 [6-26-2012] [kkookal@uth.tmc.edu]".
- Query Status:** A panel for monitoring the execution of the current query.