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i2b2 Background and Overview

i2b2 (Informatics for Integrating Biology and the Bedside) is an NIH-funded National Center for Biomedical Computing based at Partners HealthCare System. i2b2 was developed as a scalable informatics framework designed for translational research. i2b2 was designed primarily for cohort identification, allowing users to perform an enterprise-wide search on a de-identified repository of health information to determine the existence of a set of patients meeting certain inclusion or exclusion criteria.

In layman terms, i2b2 allows researchers to determine feasibility of a study by identifying whether or not a sizable amount of patients exist with their study-specific criteria.

Search Criteria

The i2b2 repository contains detailed information on UAB patients, drawn from the UAB electronic health record and Enterprise Clinical Data Warehouse. These data are made available to UAB researchers through “self-service” access via the i2b2 user interface in several different forms:

**Level 1** – summary data only (patient counts) in which queries are limited to Limited Data Set views (dates -- including dates of birth, cities, states and zip codes with other Protected Health Information (PHI) excluded); counts with less than 5 but greater than 0 will be reported as “less than 5”. This access has been certified by the IRB as not human-subjects related.

**Level 2** – detailed, patient-level data in which queries are limited to Limited Data Set views of the data (dates -- including dates of birth, cities, states and zip codes, but with other Protected Health Information (PHI) excluded). These data are made available via i2b self-service pursuant to an IRB exemption for the i2b2 system.

**Level 3** – Upon request by human mediated consultation – detailed, fully identifiable patient data. These data are made available to researchers with appropriate, specific approval from the IRB, possibly, but not necessarily, through expedited review and waiver of consent, as per standard IRB procedures for access to human subjects’ data.
i2b2 as a National Resource

i2b2 is rapidly becoming the de-facto standard for cohort identification and hypothesis generation at research centers across the US and abroad. i2b2 is a widely adopted tool among Clinical and Translational Science Award (CTSA) sites and other Academic Medical Centers, and has also found increasing use at other organizations for research and clinical performance improvement initiatives.

Accessing i2b2

Access to i2b2 is available to UAB personnel via Blazer ID, but also requires validation of several other items. Upon completion of the access request, i2b2 will verify the following:

- HIPAA Training
- IRB Human Subject Protection Training
- Acknowledgement of Restrictions on the Use of Limited Data Sets
- Supervisor approval for non-faculty. After filling out the access request form presented to new users, non-faculty will be given an email link so that their supervisor can approve or deny i2b2 access.

Register for one of the required training courses by going to UAB Faculty and Staff Learning System.
Authentication and Verification

User Navigates to UAB’s i2b2 web site

User redirected to UAB’s Shibboleth login

Authenticated student/faculty/staff

User has completed all training and data agreement and has supervisor approval?

YES
User is automatically, immediate logged into i2b2

NO
User is sent to the UAB i2b2 welcome page, sees what remains to be done to be granted access.

UAB’s Online Training System
Nightly data feed

i2b2 Database
- Training Data
- Agreement Data
- Request Data
- Supervisor Approval Data
REQUEST

blazed0 - Your Checklist to Gain Access to i2b2 at UAB
member,student

Access to i2b2 requires successful completion of at least one of the following courses:

- HIPAA Privacy/Security Training
- IRB Investigator 101 Initial Training
- IRB Investigator 101 Continuing Ed

Register for one of these required training courses by going to UAB Faculty and Staff Learning System. Please note that information about course completion comes into i2b2 overnight, so there will be a short delay between course completion and i2b2 access.

You must complete the form below.

i2b2 Access Request Form

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Blazer ID</td>
<td>blazed0</td>
</tr>
<tr>
<td>Your UAB Email</td>
<td>Your Email</td>
</tr>
<tr>
<td>Your UAB Phone</td>
<td>Your UAB Phone Number</td>
</tr>
<tr>
<td>Your First Name</td>
<td>Your First Name</td>
</tr>
<tr>
<td>Your Last Name</td>
<td>Your Last Name</td>
</tr>
<tr>
<td>Your School</td>
<td>Your School's Name</td>
</tr>
<tr>
<td>Your Department</td>
<td>Your Department's Name</td>
</tr>
<tr>
<td>Why you need access</td>
<td>Please describe why you need access to i2b2. If you know of a specific data set (project) in i2b2, describe it.</td>
</tr>
<tr>
<td>Supervisor Email</td>
<td>Your Supervisor's Email. Required for non-faculty access.</td>
</tr>
<tr>
<td>Supervisor Name</td>
<td>Your Supervisor's Name. Required for non-faculty access</td>
</tr>
</tbody>
</table>

Submit This Request

Annual acknowledgement of restrictions on the use of limited data sets.

You will need to reaffirm this acknowledgement once a year.

You have NOT YET been assigned to an i2b2 project/data set. (This will happen automatically when all items above are successfully completed.)
Learning Management System

https://www.uab.edu/learningsystem

Log In

Search for Limited Data Set

UAB Learning System

Catalog

limited data set

Results Showing 1 of 1

Acknowledgement of Restrictions on the Use of Limited Data Sets - CCTS

COURSE | ACTIVITIES: Test, Course Attachment

Show additional information
Learning Management System

Acknowledgement of Restrictions on the Use of Limited Data Sets

STATUS: Not Yet Started  EST. TIME: 15m

Click Enroll

Click View
Learning Management System

Instructions
Please click on the attachment below to read the terms and conditions of using LDS.

Attachment

LDS Terms and Conditions
FILE TYPE: pdf UPDATED: Feb 3, 2016 at 10:49am CT

Click Open

Opening Acknowledgement of Restrictions on the Use of Limited Data Sets.pdf
which is: Adobe Acrobat Document (572 bytes)
from: http://www.healthstream.com
What should Firefox do with this file?

- Open with Adobe Acrobat Reader DC (default)
- Save File
- Do this automatically for files like this from now on.

Open the PDF
Acknowledgement of Restrictions on the Use of Limited Data Sets

As a condition of receipt of a Limited Data Set (LDS) from the UAB i2b2 system, you agree to the following terms and conditions:

1. The research is supported by and approved by your superiors.
2. You acknowledge and accept that UAB is not permitted to release to you the key to the code that links information to individual research subjects.
3. You are the individual responsible for the use of these data and any subsequent publications. You will follow the appropriate human subjects research, data security and privacy protections and will maintain the confidentiality of these data in compliance with all applicable UAB policies and procedures as the data sets may contain Protected Health Information (PHI).
4. Use and disclosure of an LDS:
   a. As the Recipient, you agree that you will provide a full title and explanation of your research pertaining to the use of the LDS, as requested in the form provided at the time of data access.
   b. You will only give access to the LDS to other individuals who are within UAB and have completed Human Subjects Research and HIPAA training; you will provide the names of these other individuals on request.
   c. You agree to apprise all individuals that have access to the LDS of the terms and conditions of data use.
   d. You shall use appropriate safeguards to protect the LDS from misuse or inappropriate disclosure and to prevent any use or disclosure of the LDS other than as provided by law or regulation.
   e. You shall not attempt to identify individuals to whom the data pertain or attempt to contact such individuals.
   f. That you are making use of previously collected (“on the shelf”) data only and you shall not attempt to carry out subsequent data queries for the purposes of collecting data (“updates”) about individuals whose data are in the LDS.
5. You will use the data only for the research use described and will maintain the LDS as per UAB policy.
6. You shall report to the UAB Privacy Office any unauthorized use or disclosure for the PI of which you become aware. You will take reasonable steps to any further use or disclosure. To contact the UAB Privacy Office, call (205) 996-5051 or e-mail ssearson@uabmc.edu.
7. You agree to these terms of use for as long as you retain the LDS, unless otherwise terminated by applicable law or regulation.

This Acknowledgement applies to the LDS resulting from the i2b2 query and shall continue as long as I retain the LDS, unless otherwise terminated by applicable law or regulation. I may terminate this Acknowledgement by returning or destroying the LDS and providing a written notice to the i2b2 administration at: Director of Research Commons, UAB CCTS, 111 PCAM, 1720 2nd Avenue South, Birmingham, AL 35294-0007. Should I commit a material breach of this Acknowledgement, which is not cured within thirty (30) days after I receive a notice of such a breach from i2b2, then i2b2 will discontinue disclosure of LDS and will report the breach to the UAB Privacy Office by phone at (205) 996-5051 or e-mail ssearson@uabmc.edu.
Learning Management System

Mark as complete

Click to start the Attestation

Start the Test (Attestation)
Learning Management System

Question 1 of 1

By clicking Yes below, I acknowledge/attest that I have read and understand the terms, conditions, and restrictions on the Use of Limited Data Sets.

- Yes
- No

Click “Complete Test” to acknowledge/attest

Congratulations, you passed this test!

- Your Answer: Yes

Exit Test

Congratulations!
You have successfully completed this course.

Return to To Do  View Certificate  View Transcript
Supervisor Approval, only for non-faculty

i2b2@UAB

Your i2b2 Access Request Has Been Saved

Please send your supervisor an email about this request by clicking the link below.

Click This Link to Email Your Supervisor

If you want to know more about i2b2 at UAB, click here: https://i2b2-uab.hs.uab.edu/web/i2b2/uab_i2b2_Helpdesk.php

The user below has requested access to i2b2. Your name was submitted as their supervisor. If you approve this request simply use 'REPLY ALL' and put the word 'APPROVED' into the email body.

First Name:
Last Name:
Office Phone:
Department:
School:
Reason For Request:
To access the i2b2 program

Go to:

https://i2b2-uab.hs.uab.edu

1. **UAB i2b2 Host** – Presently, UAB has only one host which appears in the dropdown menu at login. Simply click “Select” to navigate to the next page.
Navigating the Workbench

💡 Helpful Hints in this Guide
For those who prefer to learn a software tool by exploring independently rather than following a User Guide, a light bulb icon is used within this guide to highlight helpful and nonobvious tips.

Workbench Screen
Following the validation of your login credentials, the i2b2 Query & Analysis Tool screen is displayed and available for use. The basic i2b2 workbench screen provides six primary tabbed panes for identifying, building and running cohort discovery queries. These panes are indicated in the figure below and described in the accompanying text.
1. **Navigate Terms** - This is where you will locate search concepts using a hierarchical folder structure.
2. **Find Terms** - In this pane, you can find search concepts using a representative word, phrase or specific code to describe the concept.
3. **Workplace** - This is where you will create personal folders for storing your queries.
4. **Previous Queries** - This pane shows a log of previous queries for the current user.
5. **Query Tool** - This is your main work area where you will define and refine the criteria for your query.
6. **Query Status** - You will be able to monitor progress and see results in this pane.

### Navigate Terms

The numbers after the folders and/or concepts is the count of unique patients who have that documented.
To expand a folder click the (+) and to close click the (-)
Resize Workspace

The Resize Workspace icon will toggle between the default tabbed pane size and a vertically expanded view of the pane. This can help minimize the amount of vertical scrolling. Any tabbed pane that includes this Resize Workspace icon will allow you to expand the tab vertically to the full available height of the browser window. This is a very useful option!
Constructing and Running your Query

Selecting Query Criteria

The **Navigate Terms** pane provides a hierarchical tree of search concepts that can be used to find and specify query criteria. You can search through demographics, diagnoses, vitals, problems, procedures, and features of the visit.

Building Your Query (with a worked example)

Imagine that you want to conduct a trial of a new migraine drug and are designing your study and recruitment plan. You may want to know: how many patients in our database are women, 18 years or older, get migraine headaches with auras (ICD9 codes: 346.0, 346.00, 346.01, 346.02, 346.03), and who are not currently pregnant?

**Follow the pink boxes to see follow a sample cohort query.**

Once you find the concept in the **Navigate Terms** or **Find Terms** tabbed pane,

1. Click, hold and drag the term from the **Navigate Terms** pane.
2. Drop it into the next available **Group panel** (e.g. Group 1 below) this will add it to the active query criteria.

![Image of I2b2 Query/Analysis Tool]

*Here is where we select the first of the demographic criteria for our cohort.*
• The search will turn up cases that meet any one of the criteria dropped into a single Group. In logical terms, these items are grouped by “OR”. A green informational message will pop up to remind you of this relationship; it will say “one or more of these”. In the example below, a patient will be included if she has any of the migraine diagnoses listed in Group 2.

• The criteria in one Group will be treated as an “AND” with items in another Group. In other words, both Groups will have to be true. In the example, the patients will have be female and have one of the diagnoses in Group 2.

Remember: Criteria placed in the same Group are evaluated to see if any one of them is true. In most cases, each demographic category should get its own group. So, for example, you would not place Gender criteria and Language criteria in the same group, or else you will get — say — patients who are either Female or speak Dutch.

[Diagram showing query tool with search criteria for migraine headaches with and without auras, and a note that additional demographic criteria must be placed in a new group to identify cases where “age>=18 years” is true AND “Female” is true.]
Using “Find” Terms to Help Develop Your Query

Although Navigate Terms can often be used as the primary tool to build a query, Find Terms offers additional options for finding the criteria you need. These options include Search by Names and Search by Codes. Using Search by Names, you can find your query terms by searching for full words, partial words or phrases.

A pull-down menu allows you to choose what sort of match you want between the terms that are found and the words/phrase you have entered. You can choose: Containing, Exact, Starting with, or Ending with.

After selecting Find Terms, make sure you select Search by Names (it will be shown in lighter-greener shade of blue). Once you enter the search terms, click the Find button.

Here we have found the ICD9 codes for migraine headaches by using: Find Terms > Search by Name.
A second pull-down menu allows you to indicate the category of the term you are seeking. For example, in the search above for terms related to “migraine”, the option “Diagnoses ICD9” was chosen.

If your initial search turns up no matches, try using different names for the condition or therapy you are seeking. For example, many cancers are referred to “malignant neoplasms” in the Diagnoses ICD9 vocabulary.

If you know the code you are looking for and don’t want to have to navigate the hierarchy in the Navigate Terms tab, you can use the Search by Codes option under Find Terms. Make sure you click on Search by Codes after selecting Find Terms.

As with searching by names, when searching by codes, you have the option of limiting the search to certain categories.
Find Terms > Search by Codes only works if you provide the exact code. If you would like to search for terms using a code, but want to find all ICD9 or CPT codes that include a string (for example, you want all codes that have “346.” as part of the code including 346.00, 346.01, 346.02, etc.), you can use the Search by Names option and enter the code string. This works because all the terms that are searched by name include the code as part of the name. For example, “346.03 Migraine with aura, with intractable migraine, so stated, with status migrainosus”.

Note that the Find Terms mode of finding criteria for your search does not allow you to specify modifiers (i.e. principal vs. secondary diagnosis) for your diagnostic criteria. However, if you mouse-over the folder icon to the left of a term once you have found it, you’ll see the full pathway for the term within the code hierarchy. You can use that information to go back to the Navigate Terms mode, navigate to the terms you are interested in, and select the modifiers you want.

Demographics
The age field searches for the patient’s age today (at the time of the search) as opposed to the age at the time of the clinical encounter.

Diagnoses vs. Problems
Diagnoses are associated with a particular encounter, whereas Problems, which come from the problem list in the patient’s medical record, are meant to provide a succinct overview of the patient’s most important health information. The Problems will include chronic medical conditions, family history, past tests, and past procedures.
1. To delete a criterion you have already dropped into a group, right-click on the icon to the left of the term and select Delete. (See number 1 in red circle below.)
2. To delete a whole group, click on the X on the upper right-hand corner of the Group box.
3. To create a new Group, which will appear to the right of the existing Groups, click New Group.
4. To clear all search information that is currently in the Groups of the Query Tool pane, click Clear.
Refining Your Query

*Constraining Dates of Encounter*

In some cases you will choose to restrict your search to encounters that took place within a certain time period. To include only certain dates, click on **Dates** at the top left of the given Group panel (see 1 in figure). A pop-up window will allow you to specify the date range (2) and once the dates are selected the word Dates will be underlined in the panel (1). **Note that the date constraint function works best when applied to the diagnoses or procedures.**
Adding Exclusion Criteria

You can create a group of criteria and then click **Exclude** (3) to exclude all patients that meet any of the criteria in the list. A pink informational message (4) reminds you that “none of these” will be included.

Here we exclude patients with pregnancy in their medical record.
If we exclude all patients with pregnancy-associated diagnoses, we would actually be excluding all patients who ever had a pregnancy in their medical record. For our example, we’re interested in patients who are currently pregnant. To find that out, let’s restrict the search for pregnancy codes to the last eight months (here, November 1, 2012 until July 1, 2013). To do this, we make use of both the Dates option and the Exclude option.

Multiple Occurrences

💡 In some cases you may choose to make your selection criteria more conservative (more specific) by choosing only to include patients who have a particular diagnosis (or treatment, etc.) in their record more than once. To do so, click on Occurs > Ox (see 1 in figure). The constraint window will pop up where you can specify the number of occurrences (2). The label on the group will change to reflect the additional constraint (1).

Running Your Query
Click on **Run Query** at the bottom of the Query Tool pane.

An error has occurred in the Cell’s AJAX library. Press F12 for more information

Sometimes this error happens when running a query.

**Just click OK and run it again**

“Run Query” windows will pop-up. Before clicking **OK** you can rename the query. You may want to do this for easier reference when you retrieve the query at a later time. We recommend that you leave the time of the query (to the right of the “@”).

**Query Status Tab**

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The **Query Status** panel shows the result of the query for the aggregate number of potential patients. This number has been obfuscated so that it is true to within 3 patients.

![Query Status Panel](image1)

💡 i2b2 has a session configuration for how long to wait before the query will move to the background and allow the user to continue with other queries without waiting for one to complete by clicking the “Show Options” icon in the upper right.

Setting this lower will allow the user to continue work without waiting without canceling a query.

![Query Tool Options](image2)

When a query reaches that time, it will present a message that the query will continue to run in the background:

![Query Timeout Message](image3)

Your query has timed out and has been rescheduled to run in the background. The results will appear in "Previous Queries"

Prevent this page from creating additional dialogs

---

**Advanced Query Tools**
Previous Queries

Every time you run a query it is listed in the Previous Queries tab of your workbench screen. It will be assigned a default name that includes the time it was run, unless you specified a new name before running the query. You can rename a query once it is logged in the list of Previous Queries.

💡 You may want to retrieve a previous query to see the results again or to tweak some parameters and run the modified query. To do either of those, select the query in the Previous Queries tab, drag it to the text box labeled Query Name, and click the Run Query button. See screen shot below.

![Screen Shot of i2b2 Query & Analysis Tool]

Temporal Constraint

In the default situation, all of the groups have to be true for a patient in order for the patient to be counted towards your cohort (this is the “AND” between the group panels) and the truth value of each group is found independent of the other groups. However, you have the option to constrain the query so that the groups will only be true if their events coincide with the timing of events in another group. So, for example, if you have entered a list of diagnosis codes in Group 1 and a list of procedure codes in Group 2, you can constrain the search for patients to those who have documented procedures in Group 2 during the same encounters when the diagnoses in Group 1 were documented in their record.

The option to constrain the criteria to common encounters, can be found in the pull-down menu for the Temporal Constraint (see 1 in the figure below) field in the Query Tool pane. The default is “Treat all
groups independently." You can choose “Selected groups occur in the same financial encounter” (2). Once you select the “same financial encounter” option, the headings of all the Group boxes with change to, “Occurs in Same Encounter” (3). Note that there is a bug in the software that sometimes causes problems when “Occurs in Same Encounter” is applied to a group that contains Demographics criteria. Therefore, we advise that you go to the heading of groups that include Demographics criteria and turn the heading (in the white bar) back to “Treat independently”. See, for example, Group 1 in the figure below. We are working on having this problem fixed.

Tips for Optimizing your Query

To optimize the search time for your query, choose the most restrictive criteria as your first Group and move to increasingly broad categories as you move to the right.

For example, if you are searching for males in their 20’s who have broken their knee caps, the best way to construct the query is shown in the figure below. Group 1 narrows the cohort to only patients who have broken their patella (knee caps), Group 2 selects those aged 20-29 within that group, and Group 3 selects only the males from within that cohort.

Using Previous Queries
Users can drag a query from Previous Queries to the “Query Name” in the Query Tool to reload them.

Users may also drag a previous query into the query criteria and use it as a constraint like any concept. (For example: patients must be in the results of this previous query (in group 1) AND have an imaging procedure (in group 2).
Previous Query Options: Users can set the display for the previous queries to show more queries, or chance the sort order.

Workplace: the user can drag previous queries to their workspace in order to organize and keep track of important queries, final results, etc.
Additional folders can be created by right clicking on any folder in the workplace.

Queries in either the Workplace or the Previous Queries can be renamed at any time.
Examples:

White Hispanics with an allergy to penicillin
People with a record for antidiabetic medication AND a Hemoglobin A1c over 7%

Search for A1C

Selecting one test and setting the criteria of greater than 7%

Results for having any record at any time of an antidiabetic medication AND a HBG A1c at any time over 7%. UAB has 3 TEST FOR A1c
When Running a Query, the user has various options:
**Count:** simple count of the results. Single Number – Typical for iterating over the query criteria before finalizing on the patient set of interest.

**Gender Breakdown:**
Gender patient breakdown for "antidia-* A1CNO@10:35:35"

FEMALE: 11953
MALE: 11546
UNKNOWN: 0
Unknown: 0
UNSPECIFIED: 0

Race Breakdown:
Vital Status Breakdown:

Race patient breakdown for "antida-* A1CNO@10:35:35"

- American Indian or Alaska Native: 64
- Asian: 165
- Black or African American: 10199
- Decline/Refuse: 178
- Hispanic or Latino: 278
- Multiple: 5
- Native Hawaiian/Other Pacific Islander: 1
- Other: 277
Patient Set: Created the list of patients in order to download the dataset.
Encounter Set: Not currently used
Timeline: Not currently used

Changing the Query to require that the medication and the lab result occurs on the same encounter date.

Results when requiring the same encounter
Changing the query to require that the medication be between 12/1/2015 and 1/31/2016

Number of patients

18024

For Query "antidia- A1CNO@09:51:36"
Results after constraining for medication within the 2 month period
Clicking the Print Query icon just above the results box shows the detail criteria of the query as well as the results.
Query Name: antidia-* A1CNO@09:55:39
Temporal Constraint: Selected groups occur in the same financial encounter

### Group 1

<table>
<thead>
<tr>
<th>Path</th>
<th>Concept/Term</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>medications\nutritional\antidiabetic agents</td>
<td>antidiabetic agents</td>
<td></td>
</tr>
</tbody>
</table>

### Group 2

<table>
<thead>
<tr>
<th>Path</th>
<th>Concept/Term</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>LONC\Loincparts\Hematology/coagulation\Hematology\Hemoglobin normal variant\Hemoglobin a\Hemoglobin a1\Hemoglobin a1c\Hemoglobin a1c BD ser\pis\Hemoglobin a1c hemoglobin:totalmass fraction point in time:whole blood:quantitative:UABLABS:184081989 A1CNO (Blood) (UABLABS:184081989)</td>
<td>*A1CNO (Blood) (UABLABS:184081989) &gt;= 7 PERCENT</td>
<td>GE : 7 PERCENT</td>
</tr>
<tr>
<td>LONC\Loincparts\Hematology/coagulation\Hematology\Hemoglobin normal variant\Hemoglobin a\Hemoglobin a1\Hemoglobin a1c\Hemoglobin a1c BD ser\pis\Hemoglobin a1c hemoglobin:totalmass fraction point in time:whole blood:quantitative:UABLABS:741170943 DCA A1C (Blood) (UABLABS:741170943)</td>
<td>*DCA A1C (Blood) (UABLABS:741170943) &gt;= 7 PERCENT</td>
<td>GE : 7 PERCENT</td>
</tr>
<tr>
<td>LONC\Loincparts\Hematology/coagulation\Hematology\Hemoglobin normal variant\Hemoglobin a\Hemoglobin a1\Hemoglobin a1c\Hemoglobin a1c BD ser\pis\Hemoglobin a1c hemoglobin:totalmass fraction point in time:whole blood:quantitative:UABLABS:753473 HGB A1C (Blood) (UABLABS:753473)</td>
<td>*HGB A1C (Blood) (UABLABS:753473) &gt;= 7 PERCENT</td>
<td>GE : 7 PERCENT</td>
</tr>
</tbody>
</table>

Finished Query: "antidia-* A1CNO@09:55:39"
Compute Time: 111 secs

Patient Set for "antidia-* A1CNO@09:55:39"
Number of patients for "antidia-* A1CNO@09:55:39"
    patient_count: 1427

Patient Data Download:

Getting to the Download and/or request a consultation screen
Click “Analysis Tools” at the top Right:
Click the Patient Data Download Plugin

The Plugin is loaded into the i2b2
The Plugin Screen, or other screens can be resized or maximized by clicking the “Resize Workspace” icon.
The Data Download Plug-In allows the user to select any patient set that has been created, and download various types of facts, or summary data.

Wait Screen when download is processing
Time out Message:

**Session Timing Out**

Your session will automatically time out in 5 minutes due to inactivity. Please click “OK” to continue your session, or click cancel to log out.

**OK**  **Logout**

**Error**: Should not happen when everything is up and running

```
ERROR: ORA-06531: Reference to uninitialized collection
```

The cell's status message could not be understood.

**OK**

Additional Help
Additional online help for the general i2b2 tool is available from the i2b2 organization and can be accessed by clicking Help in the upper right-hand side of the workbench.

If you would like an in-person demonstration of i2b2 or have further questions, please contact the UAB CCTS Pittman Center for Advanced Medical Studies (PCAMS)
1924 7th Avenue South
Birmingham, AL 35233

We will do our best to respond to your inquiry within 2-3 business days.